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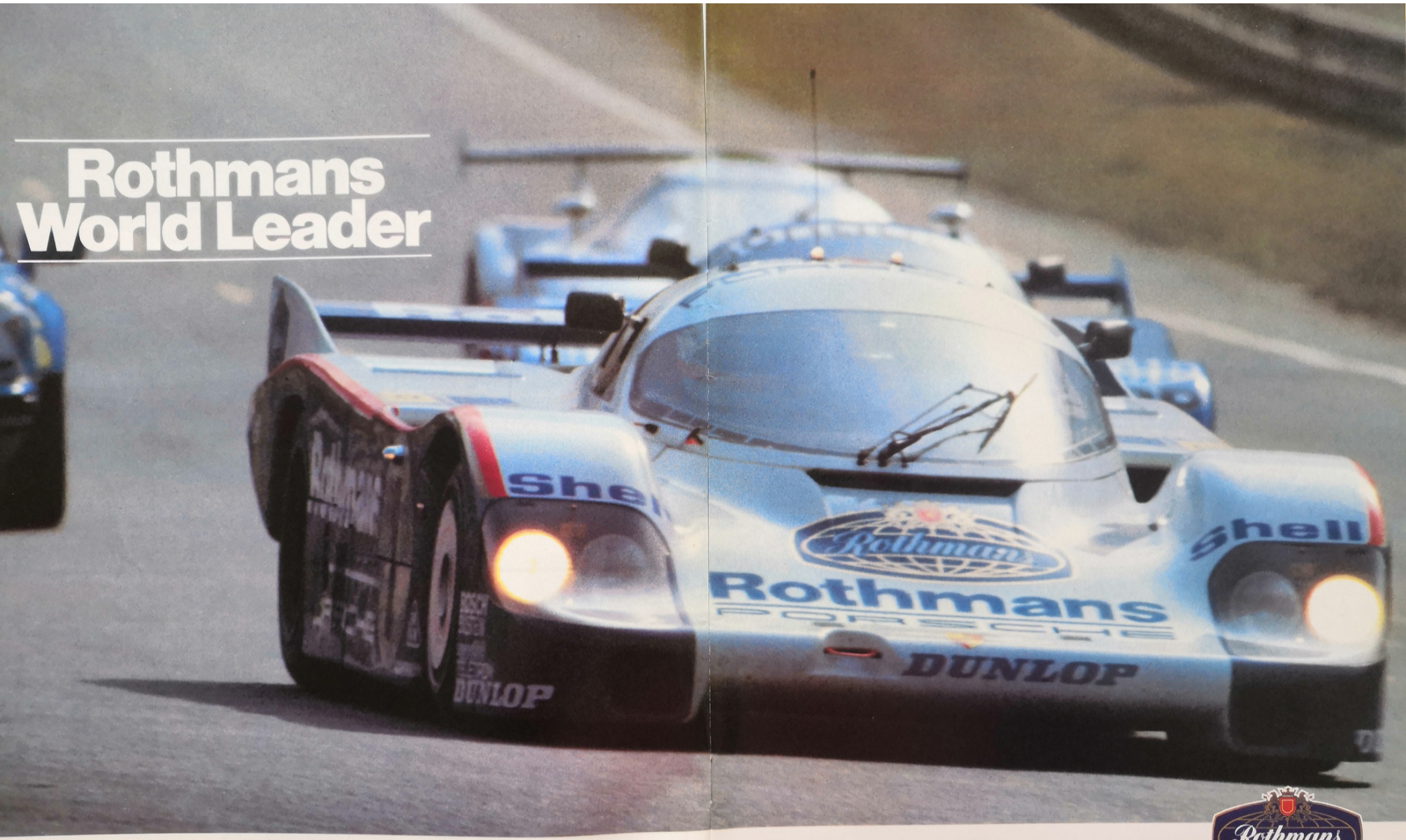

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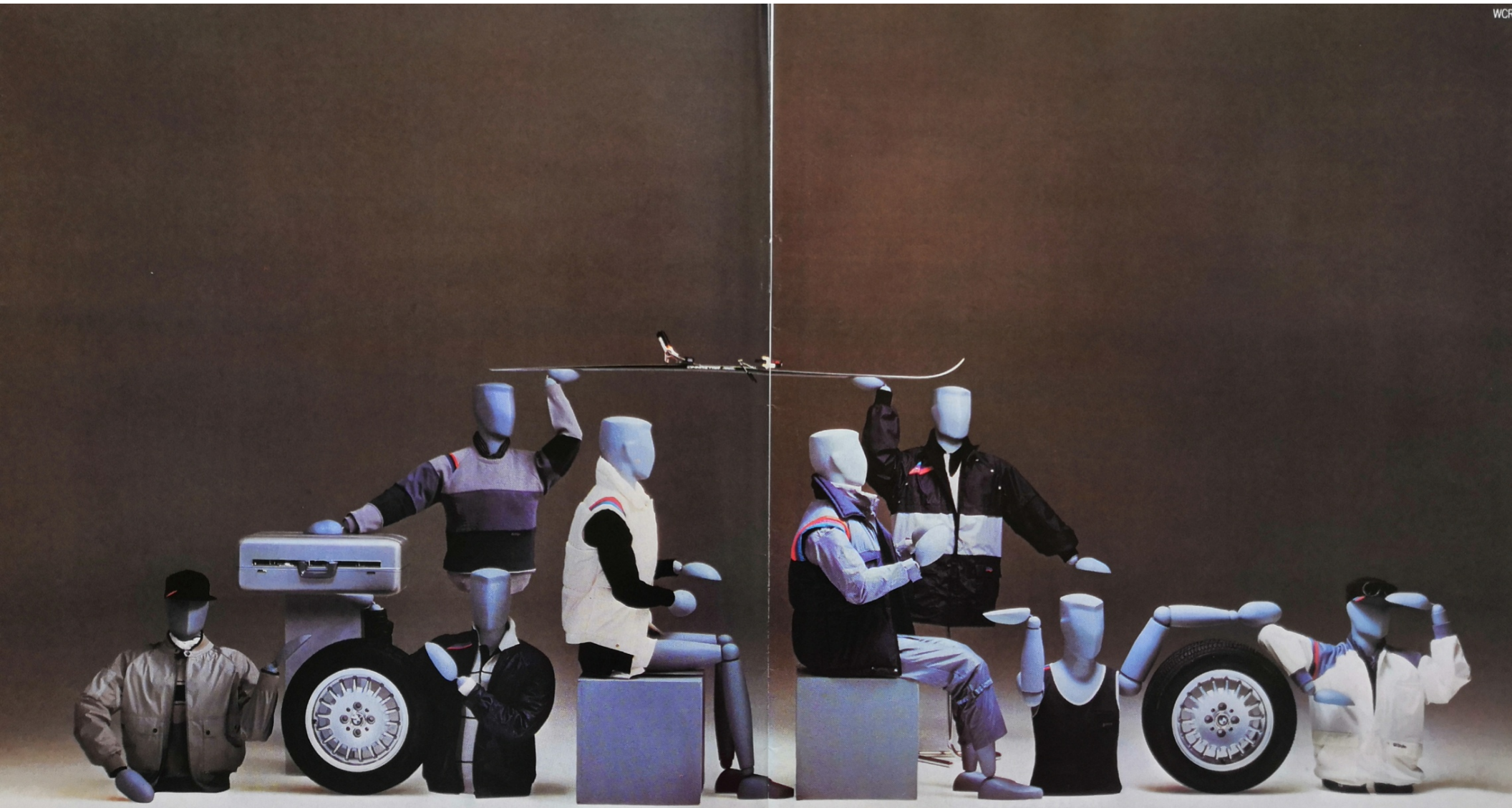

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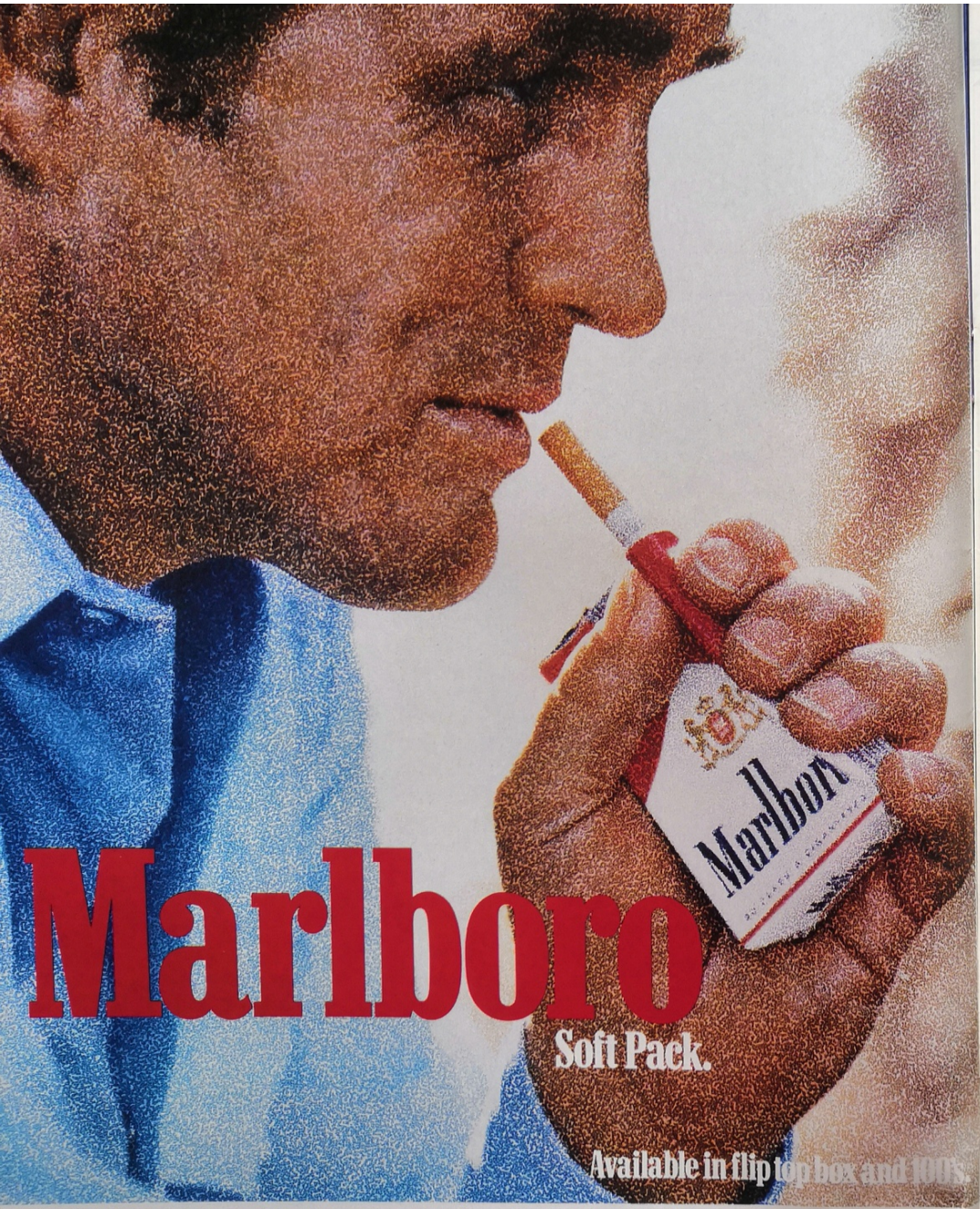

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WATER, WATER

There are subjects on which one is wise to tread lightly: as if on water. One such is the subject of water-injection, on which we have had much to say, and long before the matter became public property. It was at Hockenheim that Ken Tyrrell and Frank Williams finally lodged their official protest. It was, as expected, rejected by the stewards and both team-managers appealed. The appeal is to be heard by the FIA in Paris on September 19.

The basis of the protest, as issued by Ken Tyrrell, is as follows:

First, that the maximum RON (octane rating) of the fuel may not exceed 102, nor may the fuel exceed 2pc oxygen and 1pc nitrogen by weight, nor contain any additives.

Second, that when water is added, the fuel no longer complies because: (1) the RON exceeds 102, (2) the oxygen content exceeds 2 pc and (3) not consisting exclusively of hydrocarbons, oxygen and nitrogen, the fuel contains a power boosting additive.

Tyrrell's argument is that if water is added, then the oxygen content of the fuel must rise; and further, that water is a well-known anti-knock additive.

As might be expected, both Renault and Ferrari call the argument rubbish. Besides, the chances of the Appeal Court paying heed to the protest are limited. That we all knew anyway, as the FIA is inclined to pay more attention to the "big constructors" than the small.

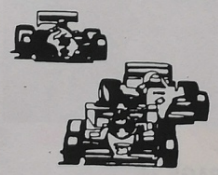
Then came a report from Detroit which said that AGIP, the Italian petroleum giant, had asked for an injunction to permit them to examine the Renault injection system, which, according to the report, AGIP thought might have been based on their patented, and AGIP-developed, system. The report went on to state that a disgruntled ex-AGIP employee was responsible for the patent violation and to ask whether Renault's lack of success in Detroit might not be due to an accord between Ferrari and Renault to assure that their allegedly-illegal systems were not examined.

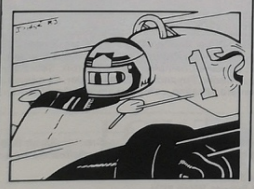
Renault states: (1) that no AGIP engineer ever was in contact with them; (2) that the injection system has remained unchanged since Brazil; (3) that it was in use in Detroit; and (4) that the Ferrari and Renault injection systems are completely different. Our technical correspondent Giorgio Piola examined both systems and agrees, in that the Renault system, independently developed on his own 18 turbo by J.P. Boudy, injects water between the intercooler and the turbos and is thus emulsified on its way towards the combustion chambers. The Ferrari system, more sophisticated, emulsifies the water directly in the fuel. Further, the Renault injection is some 70 cm from the combustion chambers while the Ferrari system is much closer.

Meanwhile, there are those who believe that the Tyrrell-Williams protest *really* has to do with the limitation on fuel tank size to be introduced in next year's regulations, which would make water-injection even more beneficial. The basic technology of water injection is, however, well-known. Almost every major fuel supplier has such a project up his sleeve: for the reason that it makes for more powerful fuel at a lower octane rating! BMW's senior engineer, Paul Rosche, says his engine *does not need* "water injection and Ron Dennis, speaking for TAG/Porsche, says he has discussed the injection system with Porsche engineers and the latter are convinced it is illegal.

Was this then all phantasmagoria on the part of AGIP and mysterious enemies of Renault and Ferrari? The next day, AGIP was able to confirm that there had indeed been a demand made on the courts in Detroit. The name of the defecting engineer was made known: he had not gone to Renault but, according to the Italian petro-chemical giant, ENI, to Elf, and it was ENI that intervened in Detroit, patents in hand. At this point, a question arises. Under English law, a man may not leave one company for another bearing his trade secrets. On the other hand, what one knows may not be erased from memory. It might be, then, that both sides are right: the Renault system may well have derived, via Elf, from the AGIP-developed patent... and yet be different.

Whatever the answer, one thing is sure: the argument will continue.





FRANK, HONDA... AND OTHER TURBO TALES

The official announcement of Frank Williams's alliance with Honda — revealed at the Osterreichring — left several unanswered questions. As we understood it (against a background racket of Alfasuds practising and a poor loudspeaker system), the Williams team will have Honda turbocharged engines for a minimum period of two years, 1984 and 1985. A new chassis to accomodate the Japanese V6 is well on the way to completion under the supervision of Frank's partner Patrick Head: after tests in early September there could be one Williams-Honda at Brands Hatch for the European GP on September 25 and two of them at Kyalami for the final world championship round in South Africa three weeks later. A V-10 engine has also been developed, but is currently "on the shelf."

Virtually all of the journalists' questions fired at M. Kawamoto, the inscrutable Honda representative, met with much the same response: in impeccable English he said that there was "no decision yet." For example, there is "no decision" on the future of the Spirit-Honda team in F1; there is "no decision" on whether the engines will be maintained in Europe or Japan; there is "no decision" on the exact layout of the engine (of which the press release gave only the sketchiest details).

Though speculation has been strong that TAG might not want to be associated with two rival teams, we are assured that TAG's long association with Williams guarantees their continued participation. Major sponsors for the Williams team are likely to come from three important British companies. Honda's own participation is limited to the engines; they will make no further contribution, having already invested in the neighbourhood of $13 million in research and development.

Frank did, however, confirm two important facts. Jacques Laffite will definitely stay with him throughout 1984, and so will Goodyear ("I would like to extend my contract with them for 10 years, because I'm very happy with their contribution"). Egged on by the world champion, who was standing among the press at the back of the marquee and claiming to be "irreplaceable," Frank said that he had only seriously talked to one other driver (Jonathan Palmer?) about joining the team in 1984. "I would put the chances of Keke staying with us next year at over 90 per cent," he said later: "honestly, I'm not worried."

SLAVE MARKET

When Rosberg announced that he was *not* going to Ferrari, one vital cog of the complex and bizarre slave-market settled into place. He was known to be continuing discussions with Lotus. Therefore, Lotus and JPS must have a vacant drive. Also, if Keke left, it was equally certain that Alan Jones would come high on the Williams list: and it is known that Alan, though not down on his uppers, needs a financial lift. That put the equation up to Ferrari, where Arnoux's position, until his startling 15 points, looked highly insecure, and where it was known Prost would like to go.

Keke and Prost were the lynch-pins of this argument, for Brabham had signed Piquet (and were considering Ayrton Senna, the F3 hotshot, along with Alboreto, for Patrese's place.)

Speculation aside, what do we know, or what can we surmise? Known: Laffite at Williams, Piquet at Brabham, Cheever desirous of staying at Renault, Baldi at Alfa, Ligier continuing with enough finance to make an offer to Jones and to tell Jarier he could continue but without pay (the sponsor was up to him), Lauda at McLaren, Tyrrell desirous of keeping Alboreto (if they get a BMW engine) and perhaps looking to fresh sponsorship (if Benetton stays in F1 but not with Ken). Main intangible? Alboreto, who admits to contacts all over. Surmise: Watson retires: de Cesaris wants in, but McLaren also want Alboreto. Further surmise: Arnoux's wins are an embarassment at Ferrari, where Prost is asking for a larger retainer than Ferrari usually pays. Surmise: could Ferrari and Renault swap drivers? Tambay for Prost? Surmise: JPS is a patriotic sponsor: though Tolemman intend to continue, might they have to cede Warwick to Lotus? And would not that send de Angelis to Alfa? Marlboro remains with Alfa (*dixit* Philip Morris), De Cesaris stays? Fittipaldi is in reserve (they need a Number One driver), Giacomelli is talked to, Alboreto pops up again?

In short, don't place your bets yet. By Zandvoort, we hear, much will be sorted out.

AGGRO

Hockenheim seemed to raise a certain aggro in drivers. Not only did Andrea de Cesaris (refused entryto the circuit by the particular path he had chosen) decline to accept the German policeman's *verboten*, he also gave the local fuzz a free lift on his bonnet, and when a second copper came to protest (and arrest), Andrea opened and shut the door on him. That cost him a pretty penny.

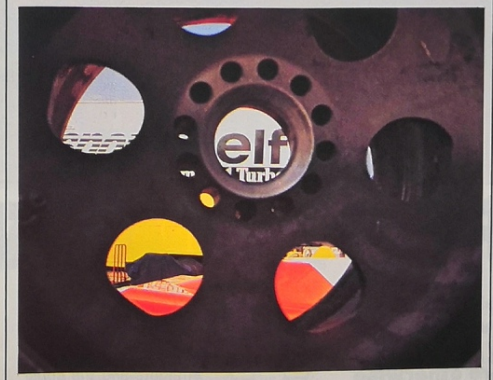
Elio de Angelis, normally anything but unruly, had a run in with Denis Jenkinson, sometimes known as the *doyen* of the British racing press and sometimes more picturesquely described as a garden gnome. It seems Jenks was in the Lotus pits, doing his thing, taking down chassis numbers and the like and offending no one, when Elio asked him why he was forever rubbishing Lotus when he wrote about them. Jenks is reported to have answered: "Because you are" (rubbish, that is). At which point Elio ordered him out of the Lotus pits and stalked off. When he returned and Jenks had not left, Elio skittled our eminent colleague over like a beer can. *Doyen* or Gnome, one can but admire Jenks' sangfroid. His version of the incident is that nothing really happened: Elio just did what no other driver had ever dared do.

APPEALING ARGUMENTS

Meeting in Paris at the end of July, a FISA Appeals Tribunal has ruled that the "spaghetti" exhaust system used by the Renault team at four GP races this year (and now adopted by Lotus) is entirely legal. The members of the tribunal, none of whom was from France or England, said that they were satisfied that the primary function of the exhaust system was to "evacuate the burned materials" from the engines of the cars to which it was fitted.

Gordon Murray, who had twice protested the Renaults on behalf of the Brabham team, has said that by routing the exhaust gases under an aerodynamically shaped profile mounted at the rear of the car, the normal "boundary layer" is eliminated, creating downforce. He argues that since the moving parts of the turbine and engine generate the gases, the Renaults have circumvented the rules which forbid the use of "moveable aerodynamic devices."

"The Tribunal tried very hard to make sure that the Renault exhausts are legal," said Murray, "but they've left some loopholes which I think we can exploit." When will we see his own device to exploit the exhaust gases from his BMW engine, then? "Not until next year," he says: "at the moment we're too busy trying to win the world championship."



PIQUE

The following conversation took place between François Guiter of Elf and Ken Tyrrell:

GUITER: You are protesting against my petrol. You claim water affects it. You can't have my petrol any more.

TYRRELL: I am not protesting against your petrol but against what Renault and Ferrari add to it.

GUITER: I consider that to be protest against my petrol and you can't have any, as of now.

TYRRELL: Well, that shows you think we have a case and you are worried.

As the old Shakespeare stage directions used to read: *exeunt omnes*. Exit all.

The point is that Elf, besides providing Ken Tyrrell's race fuel, also serviced his motor-homes, transporters, etc. The loss is understood to be substantial, the average overall fuel bill for a F1 team exceeding $200,000.

SHARKS AND MINNOWS

You've heard about the lemmings. They are those creatures that clutter up the cliffs and then follow each other off. The death-wish. Sometimes it's not unlike that in Formula One and we wonder whether all the big teams, the sharks, know what they're doing to the smaller ones, the minnows. It is true that if you have the appetite of a whale, a little plankton doesn't go such a long way and the odd prophet to fill your belly with is more satisfying. But sharks, we're told, just eat and eat out of pure *joie de manger*. And the sharks in our sport, when they're not trying to swallow each other in the murky waters of the Sea of Concord, seem to want to devour everyone and everything in sight.

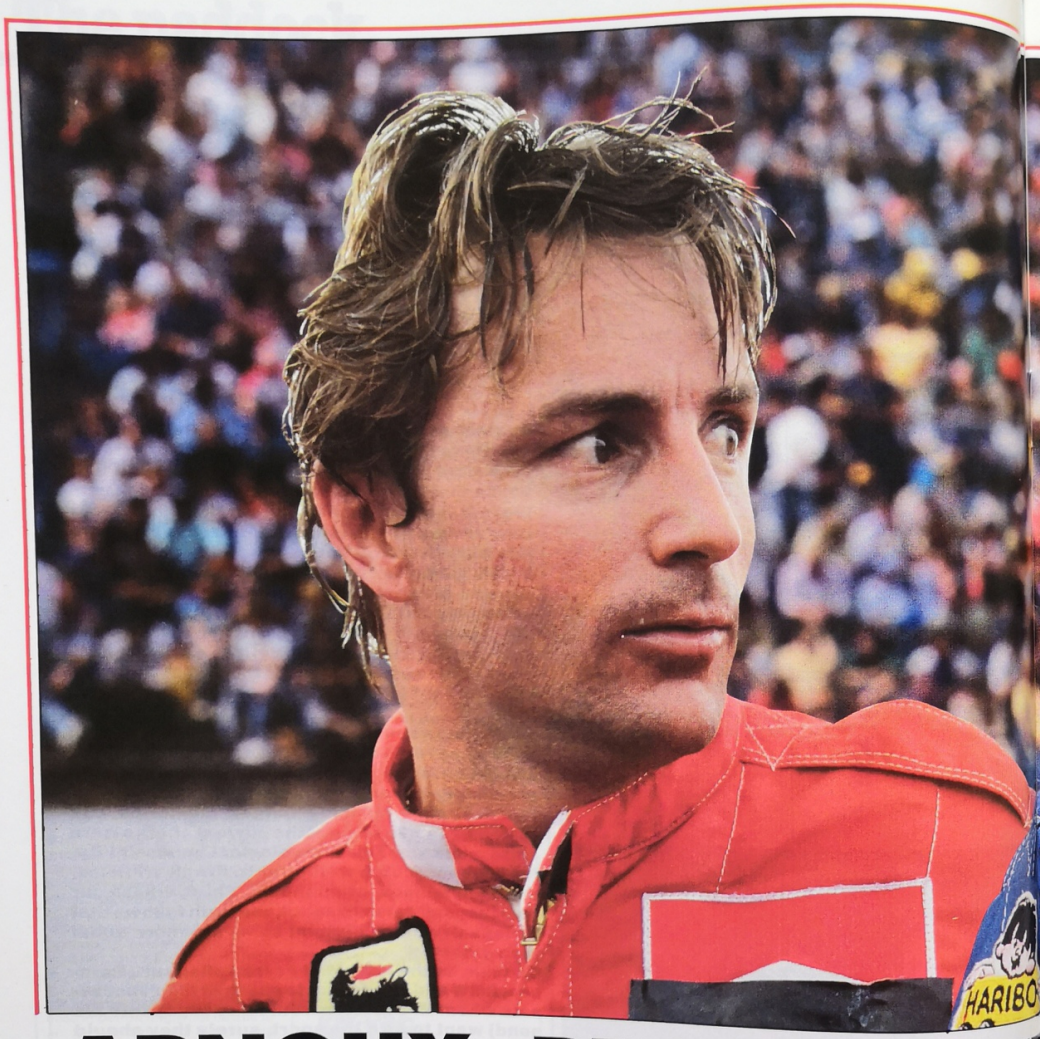
The minnows, in this case the small teams (and even some respectably-sized ones) are currently swimming for their lives. And turbo-driven sharks are simply faster than aspirated minnows. But those of us who have longer memories can remember when some of the current sharks were mere minnows. This icthyological impossibility, for instance, could well refer to Frank Williams, once the minnow of minnows. Thus, where our sport says all cars are equal, the truth follows that famous Orwellian dictum: some are more equal than others.

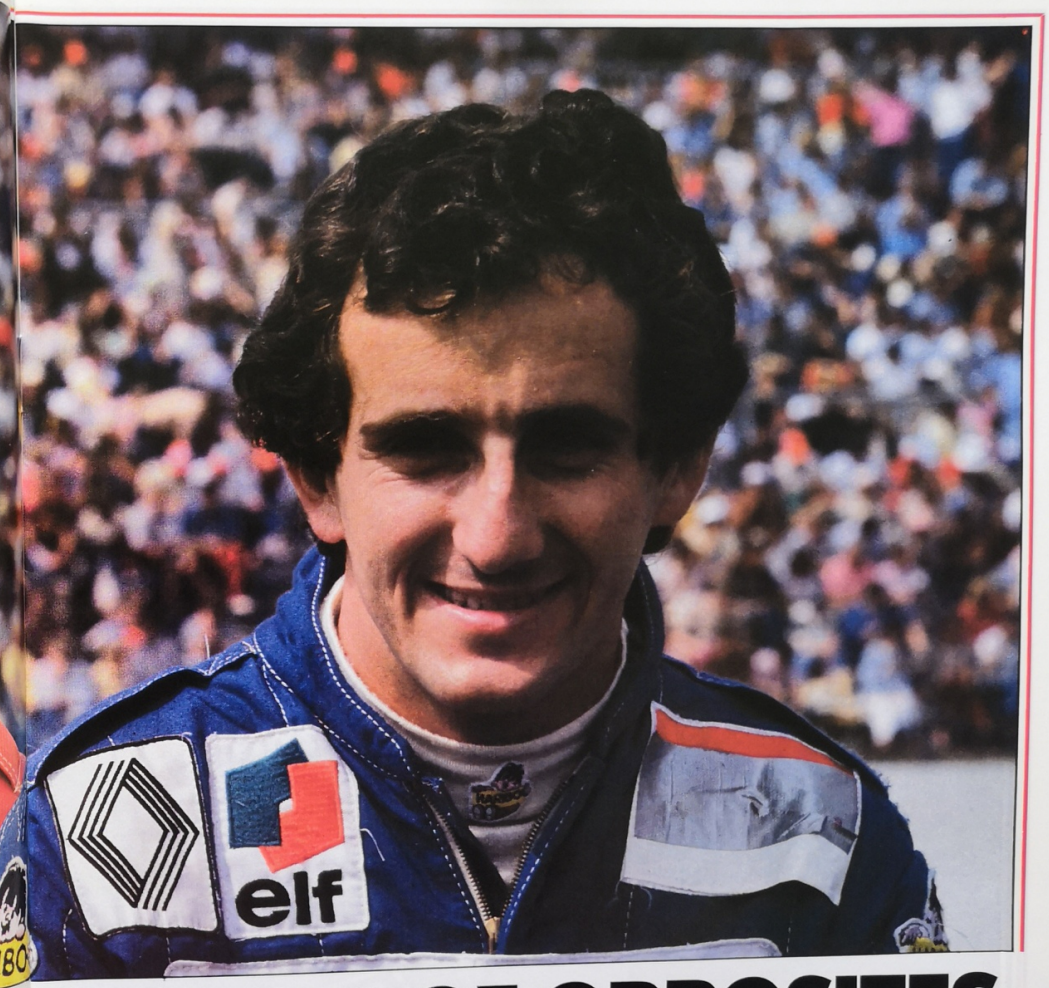
Can this be the intent? If Ferrari, Renault, Porsche, BMW and Honda (not to speak of their successors whom M. Balestre would like to pop into his pond) want to own the sport, surely they should look to who is going to race against them? Or are we going to return to the days of a handful of teams (or engines) racing against each other?

We are *for* the minnows. We are for the Ensigns, the Theodores of this world. We are even for such mini-sharks as Arrows or Osella. We are *for* everyone, because we think competition stimulates, because tomorrow's big fish is today's spawn, because we don't think the big bucks should dominate the sport, because bigness itself breeds arrogance, because the public finds the struggles of the underdog often more interesting than the fashionable sleekness of the top.

In saving the threatened, sponsors have a role to play, so do manufacturers. Wall-to-wall telly with just big powerful engines and no human dimension is not our bag. To paraphrase Disraeli, no slouch, governments are only as good as their opposition. Let a thousand minnows bloom... or do whatever it is minnows do.

GPI





ARNOUX, PROST: ATTRACTION OF OPPOSITES

At Hockenheim and Osterreichring, in the debilitating heat of a mid-European summer, two racing drivers learned some fundamental lessons in give-and-take as they won two vital victories. Both Frenchmen, they are otherwise incompatible, as circumstances proved when they were employed, and clashed personalities, at Renault last year. Now separated, nevertheless there remains an inexplicable symbiosis between them, for René Arnoux showed in Germany that he's acquired a Prost-like ability to lead races under pressure. And Alain, in Austria, revealed that look we've seen before -- on Arnoux.

With its giant concrete stadium overlooking a collection of tight curves, followed by two long straights and the constraints of three sterile chicanes, it didn't take much in the way of calculation to convince the F1 pundits that Hockenheim would be a lost cause for the Ferraris. After all, it was only three weeks since the finger of suspicion had been pointed in Goodyear's direction at Silverstone, where ('twas said) the American crossply product had sung its swanssong at the expense of Michelin's all-dominant radials.

The same pundits were equally ready after Silverstone to write off Arnoux, not so much because he'd been beaten to pole position by Tambay but because he's getting the reputation of being "hard on tyres" during a race. Perhaps his style lacks a little smoothness, his slides the vital discipline: Arnoux is constantly attacking the circuit, and that's all it takes to ensure that you've blistered another set of slicks before their time. Small cause, big effect.

Surprisingly, considering that it was hot in Germany (albeit nowhere near the mercury-busting excesses suffered at Silverstone), the Ferraris demonstrated their old domination in qualifying and in the race. From the blinking of the green, it was Tambay to the fore, exploiting another pole position. On lap two, however, his team mate put him where he wanted him, behind.

"He went past under braking for the chicane on the back leg, reported Tambay; *"it was a pretty good effort because he knew that the only alternative for me would have been to shut the door on him and risk taking us both off."*

From them onwards the little man with the TV eyes and the hanging head was threatened no more. He spoke about it afterwards as he sat on a folding chair in a corner of the marquee set up alongside the Ferrari motorhome, his hair cropped since Silverstone. He was being grilled by a horde of French and Italian pressmen, but their proximity didn't seem to bother him as they pressed ever closer on him, egged on by a group of *tifosi* who'd managed to find their way inside, complete with their Prancing Horse flags and noisy chants. There was a keen look in his eye, but nothing in the way of unconfined joy: in this, he could have been his old rival Prost.

→

René Arnoux won in Germany and Alain Prost in Austria. The two former team mates, now stern rivals, seem to have come a little closer in their attitudes, mixing racecraft with joie de vivre (photo: DPPI; previous pages: DPPI/B. Asset; following pages: B. Asset)

His replies to the journalists had an authority to them, a quality of extemporisation as he spoke of his concern for the car and his approach to the race. In short, it had obviously been an intelligently-planned and conducted race. Like Alain he was neither euphoric nor downcast: he had known how to do his job to perfection, and that was enough to give him a good feeling inside.

As someone said, miracles don't just happen. Arnoux has always driven this way, and the kind of victory he relishes is the one for which he has to fight. But this particular fighter has acquired some useful experience...

Experience is not the sort of quality, however, which leaps up out of the ground when something unexpected happens in front of you and you need it most. But when it's combined with racing savvy, that's almost what happens: *"in the last few laps"*, said René, *"Someone blew an engine and sprayed oil all over the place. Coming into the chicane, I spotted the tarmac glistening slightly. A red light came on inside my head and I was able to anticipate a change of line and move to one side. But it's true, too, that I was well in charge of the race, I wasn't anywhere near the limit."*

Being "in charge" of a race is by no means a new experience for René Arnoux, but he was analysing his feelings as a driver with unaccustomed acuity:

"When I passed Patrick I knew that I had to pull out a cushion. I wanted to be far enough ahead to still be in front of everyone after I'd made my refuelling stop. You never know what might happen when you're in the pits: the seconds tick away, and even when you're back in the race there are unknown factors like the tyres. How will the tyres behave, will they have as much grip as the first set?"

The Ferrari itself was not as good as René had hoped, because after ten laps or so it developed a vibration. *"I was both worried and calm: worried because I guessed it might be something as simple as a wheel weight that had flown off, and calm because it didn't seem to be getting any worse."*

Soon afterwards, Arnoux had to face the challenge of a well-driven Brabham-BMW. Having let the Ferrari get away from him slightly in the first half of the race, Nelson Piquet now started to close in. Yet in spite of all expectations, inside the confines of his cockpit, Arnoux was completely composed.

"My lap times were consistent, and Nelson was closing up very quickly: on just one lap he caught me by three seconds. To do that you have to be doing something pretty drastic, like turning up the boost as far as it will go..."

And that is exactly why the Frenchman wasn't worried, because at that pressure the German turbo wouldn't last very long, a prediction which he thought had come true when he saw the Brabham parked three laps from the end, with firemen dousing the flames, albeit for an entirely different reason. From that point onwards, there was nothing standing in the way of the Montreal winner bringing his score to two wins this year and earning enough points to put himself back into the reckoning for the 1983 world championship.

"That's all I'm concerned about at the moment, and I'm not the only one: Nelson must be giving it a lot of thought as well. But I'm not really bothered about all this political stuff that's going on at present, because I just want to concentrate on the title. Between Patrick and me, now, it's a matter of every man for himself..."

A week later, at the Osterreichring, on the fabulous stretch of circuit which toboggans its way across the side of the Styrian mountains, it was no holds barred between the two Ferrari team mates. Tambay stayed ahead for 21 laps, then Arnoux took over until the pit stops. Nelson Piquet had a long spell in the lead, until the previous

NELSON PIQUET

HOCKENHEIM

I wasn't too disappointed about the fire at Hockenheim. Some days you win, sometimes you don't finish: that's what sport is all about. Still, I think that Arnoux was playing cat and mouse with me, because he slowed down, I caught up, then he pulled away again when I lifted off because there was oil on the circuit from somebody's blown engine. He had all the advantages.

When my Brabham caught fire three laps from the end, it wasn't the engine which blew up because I'd turned up the boost. In fact there was a leak from a crack in one of the fuel filters on top of the engine The fuel must have dripped down and caught fire on the exhaust. I drove as hard as I could at the beginning of the race, but it was making the rear tyres go off, so I knew I would have to take things easy until my refuelling stop: then I would be able to push harder. I left my stop as late as possible, until lap 30, and I must have been the last to come in. Prost was one of the first, ten laps before me, but our late stop is deliberate, because we've decided on a slightly different tactic. This involves starting the race with slightly more fuel, which means we don't have to put so much in for the second part of the race.

Who knows, though, one day we may do the same as we did at Detroit and start with a full tank!

PATRICK TAMBAY

ZELTWEG

Today was a good example of a fantastic race where all the drivers, cars, tyres and engines were pushed to the maximum, and we put on a good race. The Austrian crowd had a good race last year, admittedly, but there were only seven finishers then. This year, there were a lot more potential winners, and that's what is needed.

Yes, I was one of those potential winners, and the car was going well apart from a little understeer in the Bosch Curve. Then I came up to lap Jean-Pierre Jarier. He was having his own private normally-aspirated battle with Rosberg in front and someone else behind, but he was driving in the middle of the road, and making no attempt to pull over. Until I came out to pass in the Bosch Curve. Then he just pulled over in front of me when I attempted to go one side, and René got past. Then when I came up on the other side, he pulled over on me again and this time Piquet got by. I get on very well with Jean-Pierre away from circuits, but I found his driving inadmissible for a driver of his experience. This incident might have been a lot more serious, and there were similar moments in practice.

After that, I might still have won, but the oil pressure dropped, and then the engine stopped. It's still possible for me to win the title, and I shall be fighting every lap of every race until it's mathematically impossible.

week's winner took over and stayed in front until 17 laps from the end. Could he do it again?

The answer was to be no, because Alain Prost put into action some sort of tactic which is still a secret. It enabled him to pull the race, like a rabbit out of a hat, to his advantage in a last-minute burst of speed when the chequered flag was only six laps away.

This time, therefore, it's Prost we find, on a folding chair, under the awning of the motorhome. And, irony of ironies, the look on his face is part Arnoux. The round eyes, bubbling over with delight and mischief, look at you directly, not at the ground, as he speaks. He makes no secret of the fact that this particular race is one that he wanted to win, both to help him on the way to the world championship and because a driver has a right to his little foibles when he's been through a trauma like Alain's at Osterreichring last year, when his Renault (and his championship prospects) flamed out within sight of the finish.

"This was the one I wanted to win," he said with a wide smile: *"even at the beginning of the race I wasn't worried -- being in fourth place just behind the Ferraris and Piquet is not an insurmountable handicap."*

The Renault's road to victory, however, was scattered with potential hazards. To begin with, there's the slight matter of finding a way round the guy in front of you, no simple task on a speedbowl like the Osterreichring. *"As soon as you get behind another car here, the turbulence from him reduces the downforce of your own car. My left front tyre was beginning to pick up rubber from the track, and the car was understeering slightly. Since I didn't have the acceleration to pass him out of the corners, or enough braking power to take him before them, it was a puzzle...*

This morning, when I was pushing it, the tyres were perfect. But in the race, being stuck behind Nelson meant that I wasn't going as fast as I would have done on my own, and the left front was running under temperature. that's why I made my pit stop early, on lap 22: the first set of tyres had picked up too much rubber because every time I wanted to pass someone I was having to slow down and work out how I was going to get by..."

Having rejoined the race, Alain made steady progress into second place. Arnoux, however, was still leading. *"I was able to close right up on him and put myself into an attacking position, but I decided to hold back until two or three laps before the end. I knew that the less time he had to fight back, the better it would be for me. In fact he made a gift of the race to me, six laps from the flag, because he missed fourth gear at the chicane, and I was able to pull alongside him."*

It had already happened earlier in the race, when Alain had got his Renault level with Piquet's Brabham. He had decided to make a surprise attack, in order to overcome the handicap of the turbulence, at the chicane. *"It was touch-and-go, literally, because Nelson banged wheels with me as I tried to come through on the inside. Maybe he moved over on me a little bit too soon, but on reflection I think I must have been taking too much of a risk, because after we'd gone down the road side-by-side for several hundred yards I had to fall in behind him again..."*

Luck would have it that the only damage to the Renault was a bent wheel rim. It was, nevertheless, out of the Prost character, and more in the Arnoux tradition, to have pushed his luck to its limit...

Elsewhere in the paddock, lower lip jutting (like Prost!), Arnoux himself was to be found, muttering suspiciously loudly about that bloody fourth gear. Maybe Prost had guessed that his former colleague would be having a little moan, because he claimed to have been in much the same sort of bother himself.

"From the beginning of the race," Alain claimed, *"fourth gear graunched every time I engaged it. I tell you, I had to do some pretty snappy double-declutching to avoid missing gears by the end..."*

It can't have been as bad as he was making it out to be, at least not if Renault's chief engineer, the lugubrious Michel Tétu, was to be believed. Adopting the purest of British-style unimpassioned expressions, Tétu looked down his nose when Alain told him about his "snappy double-declutching", and commented without so much as a mote of sniffiness that, *"yes, but that's something that you're rather good at..."* You could call the relationship between Arnoux and Prost symbiosis. Between Tétu and Prost, however, what you have is osmosis.

Didier Braillon

KEKE'S COLUMN

Obviously the transfer market is very much on the top of the mind; it's that time of the year when rumours flourish like monkeys in trees. What to do in '84, '85? It's been going on for a long time now and maybe too long. The best I can say about it at the moment is that the gap has narrowed substantially and in case anyone wants to know what gap, I mean the gap between what I want and what I'm being offered.

At least we can stop right now all the rumours about my going to Ferrari. That's just not going to happen. The reasons why it won't happen are many, but they're not, as many people seem to think, that I'm scared of the politics or the legend or Maranello or the drivers they might have alongside me, or the team or the great man himself. The main reason is that I'm probably the most active driver in Formula One, not only in racing terms, but also commercially and promotionally. That makes it very difficult for anyone to build a package for me. And there's no package I'm going to take that doesn't include the freedom to get on with my own work. That would be pretty expensive, and I don't think any team could or would pay me enough to make that worthwhile.

I would have liked to have driven a Ferrari, and I certainly took our conversations seriously; they were all taken seriously, all the offers and all the talk. But it's not easy, when you're at the top of Formula One, to put together the kind of technical, economical package that can also accomodate freedom.

Now some people are going to read this and think I'm money-mad, but you have to be mad not to take money into account. It certainly is not why I drive, but as long as I drive, I want to be able to take out of the sport what I think I put in. Besides, I'm far from being the only driver in this sport. or business, who runs his own office. Obviously the sport brings in a lot of business; it also creates a lot. But I'm not desperate for money.

For me, being a professional racing driver is a two-sided job. Developing and racing cars is very enjoyable; I find exactly the same pleasure in developing business; I always have. I've been doing it for ten years: and that includes times when I wasn't making money at it. That's all it was, not the mystique of Ferrari. I don't believe in difficulties, I can adjust myself to anything. And anybody.

I'm only ruling out Ferrari for now. There have been other offers, but it should all be settled very soon.

Some of the teams I've already told I won't be driving for them; others I won't even tell; some remain a possibility. In another week I should know.

Silverstone, Hockenheim and this: a bad run and expected. We just don't have the combination of chassis and tyres working at all. One lap you can squeeze out of your imagination; but to get fifty... even my fantasy doesn't carry that far! It's not just the

tyres: it's the combination of the two and the wing-setting especially. Ferrari is on the front of the grid with those tyres, so you can't rubbish them. I just can't make them work on my car. If we could get the wing right, things would be better, but I have to press the car down on the track. At the moment, it's just a disaster.

Is this the last of the shit races? I can't answer that; I wish I could. Nineteen eighty-four is getting closer and closer. Williams has a turbo; I won't get my hands on it until I sign and that's not done yet. I am not against staying at Williams; it's just a question of getting that package together.

The best argument for Williams is that the car finishes: I can go out there and give it [expletive deleted] and it won't fall apart. It's safe, it's beautifully built and carefully tended. For someone who's been driving as long as I have, safety counts for a lot. I have super personal relations: that counts too. The job's hard enough without aggro. Frank's part is sorted out; the rest is up to us.

About this weekend. the less said the better. I made the worst start ever: first gear jumped out and I found myself at the back. That's a record! Then I started moving up and I thought I could take Niki, but suddenly the tyres lost their grip and I was skating. At the pit-stop one of the rear tyres wouldn't go on and though I came out in front of Jarier, the second set of tyres was worse than the first and Jarier got me on the chicane. By the end I'd got no front brakes at all and no third gear. Ibiza looks good. And hey, it looks like Prost is champion.

Keke Rosberg

Just as it had done exactly a year earlier, the weather was destined to play a vital role in the composition of the Hockenheim grid. Perhaps sensing the urgency of getting a quick time as soon as possible, two "new boys" (Acheson and Sullivan) spun spectacularly on Friday, while de Angelis had already set the scene for a disastrous Lotus weekend in the morning, when he went off the road in the stadium section and did enough damage to his precious Lotus 94T's steering to have to switch to the much-maligned 93T, dubbed "Big Betty."

By the end of the day, it was becoming evident that the Ferrari engineers had discovered a contributory factor in the disappointing performance of their cars at Silverstone, for the two C3s were once again using the ugly but effective "eared" rear wing which was put on one side in England. It evidently enables the enormously powerful Italian turbos to make the most of their rear Goodyear tyres, for by the end of the day Patrick Tambay had set fastest time, despite what he admitted was a "stupid" mistake when he inadvertently pressed the button that disconnects the secret AGIP water emulsifying system which enables the V6 engine to produce its enormous power reliably under extreme conditions of boost.

With Arnoux in almost equally good form with the other Ferrari, and de Cesaris making the most of Alfa's latest "practice only" turbos, Piquet was lucky to get into the first four placings, because two of his BMW engines came to smoky ends when they mysteriously lost all their water. Exactly the same problem was afflicting both the teams using Renault engines, and although both Prost and Cheever managed to set "top six" times, Mansell had to make a hurried switch to "Big Betty" for one desperate lap at the end of the day to make sure his name appeared in the top twenty-six.

Johansson, too, had to jump into the older, heavier Spirit for a single "banzai" lap after his race car, fitted with quallies and a high-boost Honda engine, had a problem. But the most disappointed man in the paddock was surely Manfred Winkelhock, whose adventures had started a few days earlier when the mercurial Gunther Schmid tried (unsuccessfully) to recruit Porsche star Stefan Bellof to take over the ATS-BMW. Whichever car Manfred stepped into, it seemed, he was destined to have trouble: a broken top gear, a broken turbo... and even a run-in with the police as he tried to park that morning.

What threatened to be the most serious incident of the weekend took place halfway through the official Saturday session, when Boesel ran over the edge of the road coming into the stadium. A stone pierced the rear brake line, and there was virtually no stopping power when he arrived at the Sachs curve. The Brazilian received some nasty cuts to the neck as his Ligier ploughed through the catch fence, but luckily both the tough monocoque and the well-placed tyre barrier saved him from any more serious injury.

On Saturday it was raining, leaving Winkelhock and two others (Acheson and Fabi) with no hope of qualifying. Several of the drivers who decided to try their cars in the wet were destined to have minor accidents, among them Patrese and Cheever, while Prost walloped one of the giant styrofoam blocks at a chicane, sending it flying into the air with remarkably little damage.

More than anyone else, perhaps, Alain was conscious of the dangers inherent in wet road racing, and there was an

irnoic reminder of this when the man who had collided with his Renault last year, Didier Pironi, arrived in the overcrowded paddock, walking but still on crutches.

A week later, 300miles to the South-East, exactly the same cast of characters assembled, and not very much had changed...

One novelty didn't last very long at the Osterreichring: although Alboreto said he liked the handling of the new 012 Tyrrell, it was put away after he'd tried it for a hour. More familiar sights on Friday were a Brabham driver (Patrese) walking home from a smoky abandoned car; Cheever with a glum face (a leaking intercooler was traced); Johansson in engine *and* gearbox trouble; and discommotion at Lotus, where de Angelis again crashed in the first untimed session and Mansell discovered that the "race" Pirelli tyre was quicker than the qualifier.

Unusually, several drivers complained of being baulked on this super-fast circuit with its long, long corners — among them Derek Warwick whose one "super" lap was, he said, spoiled by a Ferrari. There was a recurrence of an old BMW problem (cracked exhaust pipes) at Brabham, and in the course of shuffling their cars around Patrese was grateful to Piquet for the loan of his spare chassis. There was no question of Prost doing the same for Cheever, however: the Frenchman was jealously saving his race car for Sunday because the Renault overheating problem was still evident except on his "race" engine.

Nevertheless, Mansell gave notice of what was to be another good Lotus-Renault race performance by stealing fastest time in the Saturday morning session with his 94T, fitted with the four-plane rear wing of the type which had given him such a scare when it fell off his 92 and sent him crashing at Imola.

Frank Williams, comforted by the prospect of free Honda turbos for next year, faced a major bill for Cosworth repairs before lunch on Saturday after Keke Rosberg blew up the second of two V8s in a sickening "vrumph" right in front of the pits. There wasn't even the consolation of being fastest Cosworth, for the Williams drivers were outclassed for once in qualifying, especially Laffite, the man who's scored more championship points in Austria than any other.

But although Niki Lauda outpaced the other "atmospherics," his team mate John Watson, as at Hockenheim, was complaining about an instability in the handling of his McLaren MP4, which (again) he found "unpredictable" on its expensive carbon-fibre brakes.

The Saturday session was delayed 25 minutes for a new reason: an RAF vertical take-off Harrier jet had landed near the upper part of the circuit after practising its aerial ballet, and needed to be refuelled), but it made no difference to the front row of the grid, which was settled in favour of Ferrari, Goodyear and Patrick Tambay after René Arnoux's favourite engine lost power before he could put his second set of qualifiers to good use.

A word of encouragement, too, to Osella, who got both cars into the race for the first time this year. It was a last-minute nail-biter, though, because Fabi's car almost got stranded on the circuit when its throttle cable broke, and his rear wing came loose after the car had been manhandled back to the pits. Fabi's good fortune came at the expense of Boesel, who was still nursing a sore neck and described his Ligier's handling on qualifiers as "undriveable."

Mike Doodson

PRACTICE

THE RACE

1. Before a vast throng, the Ferraris take the lead, with Tambay ahead of Arnoux. De Cesaris, Piquet, the two Renaults of Prost and Cheever follow, with Baldi and Patrese right behind them. Rosberg, on the ninth row, leads the atmospherics and the Lotuses are far behind; both will retire within minutes.
(photo: B. Asset)

2. Tambay, Arnoux, Piquet, De Cesaris, Prost; Patrick will soon yield to René and then retire and Nelson be forced out with the goal in sight, pursuing the Ferrari for first; Andrea will finish second and notch up his first points of the season and Alain, minus fifth gear, will let Patrese by: he too will score for the first time this year.
(photo: B. Asset)

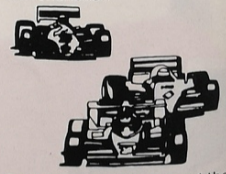
3. Behind the untouchable turbos, there is bitter battle between Williams and McLaren; Rosberg was having it out with Laffite just as Watson and Lauda were clearing a path for themselves. At the finish, with Lauda disqualified, Watson and Laffite both made it into the points, but a lap behind the leader.
(photo: B. Asset)

4. Arnoux joins the leaders in the world championship, making the trio a quartet. De Cesaris continues his excellent run and Patrese finally escapes the illfortune which has dogged him all year. For each, the Hockenheim podium smells of sweet revenge.
(photo: First Line)

From the start, this race was under the sign of destiny, the starting grid made on a clear day, rain cancelling second practice and threatening the race itself -- in fact held in hazy sunshine. Tambay changed his engine between warm-up and the start, while Piquet, Prost and Mansell all went out in their spares; there must have been some uncertainty in all three of the leading teams.

But the start was reasonably straightforward, except for a real grasscutter by Rosberg. Tambay held off Arnoux to the first corner, but yielded to him on the next lap; and Piquet, looking sharp and threatening, stayed right with the two Ferraris until Tambay gave up the ghost on lap 10, limping into the pits and never back in contention.

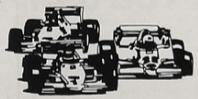
Prost at this point moved up to third with Cheever close on his tail; Patrese lay fifth and de Cesaris sixth ahead of Warwick and Baldi. This it remained until the pit-stops started -- Guerrero, Alboreto, Mansell and de Angelis having meanwhile retired -- and though the pit-stops did not fundamentally alter the outcome, two things were soon visible: first that Prost was unhappy and slow, and second that Piquet hadn't come in at all. Was this, finally, the great bluff? Not at all: just a long wait and a shorter turn-around. Patrese came in on lap 28 and went out in under 10 seconds; and when Piquet followed him in, on lap 30, he got out in 11.12s, rejoining a mere 15s behind the leader. Arnoux's lead was crumbling like stale biscuits, 15..10..8..6..5..



Poor Piquet! He had held the lead five laps, got to within five seconds and was stopped by a stupid fuel leak and resulting fire when he looked a possible winner. The race was otherwise distinguished by: a good race by Johansson until his engine dropped a valve; by three separate in-the-team races by Williams, McLaren and Arrows (see Extra,Extra) and by a fine, patient performance for Alfa by the over maligned de Cesaris. Spare a thought for Lauda, disqualified for a push the wrong way in the pits, thus handing Laffite a point.

What came to René Arnoux with relative ease in Germany eluded him in Austria, and again Alain Prost was the big winner, but this time not through inheritance but with a hard-fought win over the Ferrari, his margin at the end, nearly seven seconds, reflecting neither the stirring nature of the contest, nor the ill-fate that twice blighted Patrick Tambay.

The day was near-perfect: high, wide and handsome, blue and clear. At the start, with Johansson in his spare Honda, it was Tambay who took the opening lead from Arnoux, with Piquet making a breakaway up the inside. At the chicane, however, two incidents followed one another in close order, with only minor consequences. The drivers themselves did not know much about it, but it would seem that first Watson and de Angelis touched and de Angelis spun across the track; Giacomelli could not go by and went into the Lotus. Then, at the exit of the chicane, Surer is involved with Ghinzani, the latter's Osella touches Laffite, who goes up in the air and at some point in this carousel, Sullivan, trying to get by, whacks Surer. The result is retirements for Sullivan, de Angelis and Surer.



Safely up front, battle order is set up: Tambay, Arnoux, Piquet and Prost make up a tight group, while Patrese and Mansell follow, with the two Alfas of De Cesaris and Baldi forming a sort of rearguard. But already on lap 13 there were straws in the wind: that was when Arnoux first tried to rattle Tambay. Behind them, Prost was also playin push-and-shove with Piquet; the two banged wheels on lap 16 but Piquet held off the challenge. On lap 21 came the centrepiece of the drama: Jarier for Ligier, all too often an obstruction, was on the left about to be lapped by Tambay. As Jarier moved over right, Arnoux went by, Tambay got held up and Piquet slipped by too. Salient there after is only the way Prost took Arnoux when the latter missed third to fourth gear, the further discomfiture of Tambay with distributor problems, Piquet's fighting finish despite an engine that wasn't pulling revs, and well-merited fourth, fifth and sixth places to Cheever, Mansell and Lauda.

THE RACE

1. Before 120,000 fans Tambay leads away from Arnoux at the start, with Piquet momentarily edging between them. From left to right: Patrese, Prost (concealing Cheever), Mansell and Giacomelli, with Baldi and de Cesaris right behind them. Lauda, by the wall, leads the atmospherics, but Alboreto and Boutsen get by him.
(photo: B. Asset)

2. Tambay, Arnoux, Piquet, De Cesaris, Prost; Patrick kept his lead until he was held up by Jarier and then was betrayed by his engine. Nelson led after the pit-stops but his engine was losing power. That left Arnoux and Prost, with the Renault edging the Ferrari six laps from the end when René missed fourth gear while accelerating.
(photo: B. Asset)

3. Having pulled in Alboreto on lap 3, Lauda led the atmospherics as he had at Hockenheim. He finished sixth on his home circuit, two laps behind the leaders. Neither Watson, slowed by a bump, nor Laffite, hindered from the start, nor Rosberg, constantly losing grip, could keep him from his championship point.
(photo: B. Asset)

4. Prost obtained the victory he had sworn he would have and now leads the championship. Arnoux jumps ahead of his unlucky team-mate Tambay, but Piquet remains well-placed between the Renault and the Ferrari; the gap between the four front-runners has grown, there being now 20 points between first and fourth.
(photo: DPPI)

EXTRA, EXTRA

FORD MEN AT FEVER PITCH

The talk at the "other" end of the grid among the Ford users has all been along the same lines since Silverstone: *"there's nothing you can do about the turbos. On a quick track they pass us so easily that there's scarcely any incentive to fight among ourselves. What's the point in busting a gut when you know you don't have a chance of even getting into the points?"*

Unless you're careful, it's easy to get taken in by the attitude affected by the drivers of the best "atmospherics." Don't be fooled, though: behind the Big Three teams of Ferrari, Brabham and Renault (with Alfa Romeo miraculously joining in for Hockenheim), the "little guys" from McLaren, Williams and Arrows turned in a terrific effort to provide a battle of the backmarkers.

Matching the no-holds-barred scrap between Keke Rosberg and Jacques Laffite (neither of whom could contain the pressure brought from behind by Niki Lauda and John Watson), Thierry Boutsen and Marc Surer didn't spare an ounce of effort as they sparred, Arrows to Arrows. It was a battle for supremacy between team mates whose prospects are well-matched, now forced into reluctant rivalry by force of circumstance.

On paper, their rewards hardly look worth the effort: for more than half the race the two Arrows A6s were glued to each other's tails. For a long time it was Boutsen who was able to stay in front.

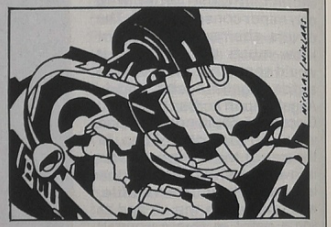
"I was holding Marc easily," he said soon after the finish, still showing the strain on a drawn, sweat-stained face. *"From lap two onwards I was in big trouble with the brakes: the pedal was going straight to the floor! I had to pump them up between corners and pray that there would be something there when I got to the next braking area. A couple of times I got in a muddle through the chicanes, but I managed to stay in front of him. Then the handling started to go off and I was running out of grip long before half distance: the tyres were shot and I was getting incredible oversteer. That's how Marc managed to pass me: I let him through and he vanished into the distance so fast that it was obvious I wouldn't have been able to hold him any longer..."*

Once through, on lap 29, the Swiss driver built up a useful advantage, crossing the line more than 20 seconds ahead. An hour after the race he was holding hands with his delightful girlfriend and talking about his race with that familiar Olympian detachment.

"I was on the same tyres as Thierry. In the early laps I knew that if I pushed too hard the rears would go off and make the car oversteer, so I decided to take it easy. I just got stuck in there behind him until I could see that I could get him safely. I wanted to be sure about it, so I waited until it was obvious that I was quicker and he wouldn't be able to re-pass.

"In fact, it happened very easily. Once I was through it was plain sailing... until the throttle started to stick open and I found myself going into corners a bit faster than I thought was healthy!"

Confidence in your own ability, knowing you're one of the best, even the deliberate art of contradicting yourself: these (and the desire to pass any living thing that happens to be in front of you!) are the stuff of any serious racing driver. At Hockenheim Marc and Thierry took themselves to their personal limits of effort and ability. Their reward was the satisfaction of having done a good job well.



Didier Braillon

FINED BUT FINE

For a man who had just been fined $10,000 for unsportsmanlike behaviour on the circuit for having cuffed two cops at the entrance to the circuit: one with the front of his car, the other with the door and held in a further $15,000 bail to avoid spending some unhappy moments in a German jail without spaghetti, Andrea had one of his best outings ever: a second place that confirms that he has, like his Alfa, not only changed nature but also improved his temperament and consistency. As he said in his motor-home after the race, in blue briefs and a knee-brace (he jumped into a ditch while out running!), *"it's the second race in a row I finish, that's already something!"*

Indeed it is. But curiously enough, as though the responsibility of mounting the podium had shocked him into sobriety, Andrea's tics had all but gone and he was surprisingly dispassionate. All the more so considering that we had just had an irruption from an irate Eddie Cheever, protesting that the next time Andrea brushed his wheels at 200 km/h he, Eddie, would... Andrea looked pained. Offended. Innocent.

For once, he sounded like any other driver: the car was going well, he had no problems. *"We were just a trifle slower on the straights than the Ferraris, but the modifications we will be making on the engine should change that. It is nice at last to have a car that will finish a race."* That sounded heart-felt. *"We weren't the fastest car on the circuit, but I consider this a very positive result and I think the future will show that we can go on from here."*

He admitted, of course, that you need a little bit of luck to climb to second place -- that is, having your opponents drop out, as did Tambay and Piquet, or have to slow down, as did Prost -- but he came back to the strides made by Alfa. The difference between them and Ferrari, he seemed to think, lay in the controversial Ferrari water injection system: *"We have studied the system, but apart from questions of its legality, we are still not sure we can develop a perfectly reliable system: not right away, at least."*

Between Silverstone and Hockenheim, a number of minor modifications were made: the turbos were enlarged to increase power at maximum levels. *"The chassis was also altered and engine and chassis both behaved themselves well throughout the race."* And as he said: *"Often when you finish a race, you have this feeling that if you'd done this or that or something had happened or not happened, you might have won. But I must say, if I had the race to drive all over again, I'd want it exactly this way."*

He made a good, but for him, a restrained start: *"I started third and quickly saw I wasn't that fast on the straights; Piquet went by me, then Patrese, then the two Renaults. But though the Brabhams made exceptionally brilliant pit stops, there was nothing wrong with ours!"*

There followed a moment of Italian hooha (the motor home was spattered with Italian journalists who have been rubbishing him for months -- he addressed them as 'Vultures'!--) in which Andrea said how happy he was to find two Italians on the podium, a rare occurence.

So, joy, but not unconstrained, optimism, but not unfounded. A little overheating towards the end of the race, no overheating in the brain. The brush with Cheever? *"I honestly don't know much about it: I was ahead of him into the curve and it's a place where you do move sideways to stop anyone behind from getting a tow.*

I may have slid a little too much, but I don't know any more than that." Indeed, for once it was Cheever who was the excitable one and the spectacle of Andrea saying of Eddie *"he's a little bit excited, isn't he?"* is one of racing's little ironies. He's come a long way.

Keith Botsford

EXTRA, EXTRA

POINTS SALVAGED

"*I think this is the most boring race I've been in.*" That was Nigel Mansell's astonishing verdict on what most spectators at the Österreichring — and many drivers too — agreed was probably the best race of the season. The Lotus-Renault driver had lots to gain after excellent practice performances, and when it all seemed to go wrong, he was understandably disappointed as one car after another, the cars he comprehensively beat in practice, came past and pushed him down the field.

Practice was turning out to be better than race. It had been exactly a year previously that Renault had stirred up the Formula One engine scene by announcing that they would supply Lotus with their turbo engines in 1983. Coincidentally, two others things happened that weekend. Elio de Angelis took Lotus's last win with a Cosworth-powered machine, a thrilling finish teammate Nigel Mansell missed as he had rushed home to be present at the birth of his baby daughter, Chlöe. With her first birthday two days after the race, Chlöe, with suitable guidance from mother Rosanne, proved to be an habituée of the Österreichring paddock. Would she bring good luck to her father, who had made his Formula One debut at this same circuit three years previously with painful results: a bottom badly burned by petrol?

There could be little doubt that Lotus's Silverstone promise had been somewhat dissipated by a rash of engine failures attributed first of all to Lotus's water system by Renault's engineers, although Renault also had their problems at that race and modified their own system. However successful that cure may have been, Lotus's problems remain. Elio de Angelis found the car difficult over bumps and went off at the oddly-named Texaco Schikane during the first session, damaging his 94T sufficiently badly to have to practise the 93T that afternoon. But Nigel Mansell demonstrated the JPS Lotus threat on Friday morning with third fastest time, and was still fourth fastest that afternoon. The next morning, the Lotus men were simply dominant: Mansell fastest, de Angelis next in line ahead of two Ferraris. The afternoon's qualifying session saw Mansell qualify behind Tambay and Arnoux, while de Angelis, already a day behind, qualify 12th.

Interestingly, the four tier wing last seen at San Marino made a reappearance on the two Lotuses, and in the damp air of an Austrian morning, one could see just how effective they were. The idea is that these four tier wings should give more downforce for less drag: the proof is that vapour trails pour off these wings in certain atmospheric conditions, proving that they are doing their job.

So Lotus-Renault had qualified ahead of Renault. What did the French think of that? "*They seem quite happy,*" said a team spokesman, "*and they seem happy to learn a lot from our chassis...*"

And then came the race. Nigel was back to fifth at the end of the first lap, and sixth a lap later when Patrese came past. By the 14th lap, Cheever was challenging, and on lap 20, the Renault man pushed Nigel out of the points. He dropped to eighth shortly after when de Cesaris came by but retirements promoted him to fifth at the end.

It had been a boring race for Nigel, lonely perhaps, but the man himself was less than pleased: "*the tyres were falling apart after ten laps. After that, it was just a matter of staying out there surviving. They fitted harder ones after the pit stop and although they were better, they didn't have any grip. So I'm pleased to be fifth in such a bad situation.*" What would it be like at Zandvoort, we asked? "*It'll be even worse; thanks for reminding me. It's a problem that Pirelli acknowledges, but it was a boring race, trying to maintain a gap to the man behind, rather than trying to catch the fellow in front.*"

Bob Constanduros

FAILING MEMORIES

Few spectators — and even team managers — could remember when two Alfa Romeo engines last finished a race. And few could remember when two Osellas last finished either. But nearly everyone at the Österreichring knew that it was the first time this season that two Osellas had started, and it was a pleasant surprise to see two of Tony Southgate's latest design cross the finishing line and take the chequered flag.

Many of the smaller teams have little chance of getting turbo engines next year, whatever their performances. But the story goes that if Osella perform well, they will get Alfa turbo engines. And just when they needed a good result, the two drivers made it onto the grid, and proceded to tax failing memories as to when either Osella or Alfa Romeo had been represented in such numbers at the end of a race.

Piercarlo Ghinzani has been a fairly regular qualifier, but not last year's impish Formula Two champion, Corrado Fabi. There are few who would doubt Corrado's talent, but his lack of familiarity with Formula One, and later the Alfa Romeo engine, has kept him off the grids so far this season.

But for once, things seemed to go Corrado's way — as much as they could. "*We put the softer settings on Corrado's car to begin with,*" said engineer Southgate, "*and they seemed to work better than the harder ones on Ghinzani's.*"

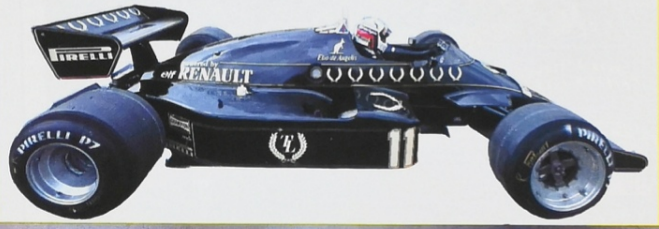
"*But I had a lot of problems in practice,*" continued Corrado. "*The engine went in the first session and then I qualified 24th in the second. It was good on Saturday morning as well — in fact I went quicker then than I did all weekend.*" His 1m 36.965s would have relegated Jacques Laffite's Williams to the back row if it had been set in the afternoon. Instead, the throttle cable broke when he was on one set of qualifiers, stranding him out on the circuit. "*I managed to jam the throttle open with a piece of paper,*" Corrado continued, "*and I got back to the pits. But fitting a new one took some time, and I only got another lap on qualifiers because when I went out, the rear wing wesn't fixed properly.*" But that lap, a tenth of a second slower than teammate Ghinzani, was good enough for the last slot on the grid.

Corrado made best use of his first Grand Prix start, although he very nearly came to grief in the chicane incident on the first lap. Indeed, teammate Ghinzani virtually caused the Laffite/Surer incident, but came out of it unscathed. However, Piercarlo's car suffered some oversteer the reafter. Fabi, meanwhile, was quietly weighing up his experience after finishing ninth in the race. "*The car was well balanced throughout the race, although I had understeer at the start in fast corners. By half distance, I was beginning to slow, just trying to finish. I'm not used to doing a race distance, and I don't think I'm very fit. I couldn't believe it — bye, bye!*"

The Osella reliability was a surprise, at least, with both cars finishing. As Enzo Osella pointed out, they had finished better when Jean-Pierre Jarier drove for the team, but performances like this were imperative for the team's future. "*We have to have a turbo,*" stated the team patron. "*We have the sponsorship for three years, and we want to improve the stature of the team.*" Reliability is one way of doing that, although the cars' actual speed was so low that one observer noted that there was as much difference in straight line between a turbo and Cosworth as there was between a Cosworth and an Osella-Alfa Romeo. Even so, to finish first, first you have to finish. And there was a familiar face in the Osella pit which might just steer the team in the right direction: Ermanno Cuoghi, Niki Lauda's former mechanic — looking rather hairier than when we last saw him — was in Osella uniform. Maybe he can straighten out the team's organisation, and make them worthy of the turbo Alfa engines which they so covet. Meanwhile, as Tony Southgate implored: "*listen to this V12 engine. It won't be around for much longer. It will be a thing of the past soon*".

Bob Constanduros

THE MAN WITH GOLDEN FINGERS

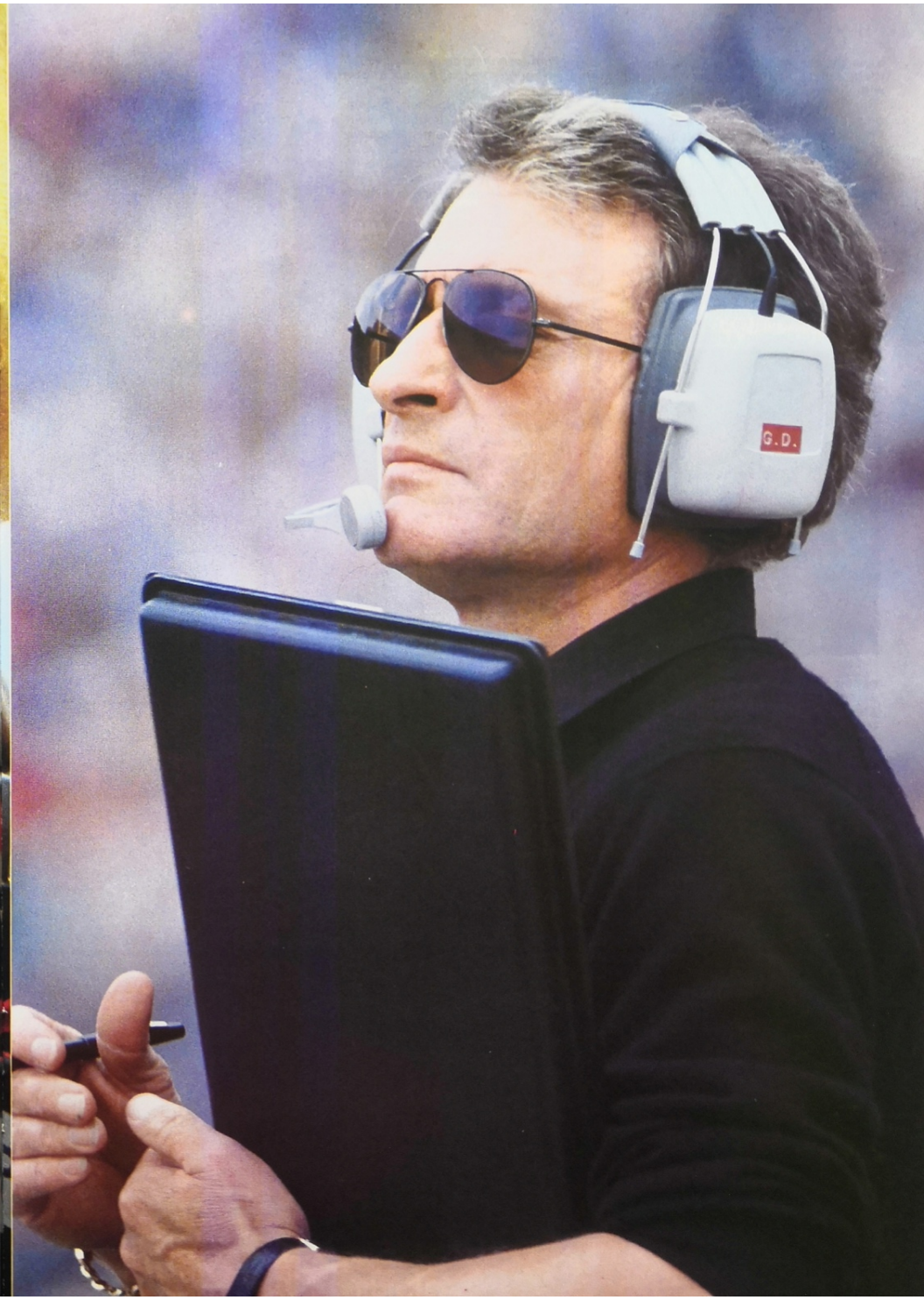


On the bare floor there's a pile of books and a few scattered cassettes. Here in the heart of Norwich, a couple of steps away from ancient streets full of antique shops and pedestrians, Gérard Ducarouge is making a new home. After five uncomfortable weeks camped at the Post House hotel, he's winkled out a new but tiny apartment: the crazy whirlwind whipped up following his arrival at JPS-Lotus at the beginning of June has begun to subside.

by Didier Braillon

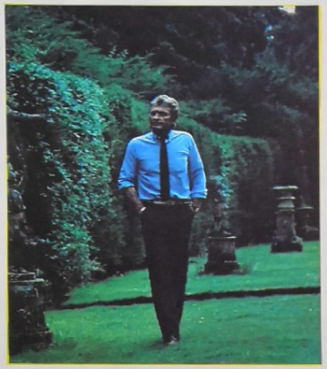
Ever since he went through the shattering experience of being fired by Ligier halfway through 1981, Gérard Ducarouge has become a man in a hurry. His step is lively and you get the impression from his now greying *coiffure* that he spends rather less time brushing it than he used to do. Having once been in an established position, with fixed routines and an apparently assured future, he's now perched on a figurative bough, living from moment to moment and waiting to see what the future brings.

After a prickly assignment at Alfa Romeo, where he was brought in to work wonders (and did so for a year and a half), he's become a sort of Grand Prix "mercenary," a righter of wrongs who's also learned to expect sudden setbacks like the one which resulted in the parting of the way with Alfa after this year's French GP. The Ducarouge touch, it seems, is expected to effect miraculous transformations, like turning a workhorse into a point-to-pointer. And while he's probably never given more than a few minutes at a time to contemplating his own future, he's even more a winner than ever: *"When we took the JPS-Lotus 94T to Donington Park for the first time, on the Tuesday before the British GP, it was down to Brabham's unofficial lap record in only three or four laps, in spite of fuel feed trouble and a misfire. That night was really tough for me: I tossed and turned in my hotel bed, needing to sleep but unable to do so. I was too scared to be encouraged, and I didn't dare to think what would happen if it turned out that I'd designed a turkey..."*



Nevertheless, self-doubt is hardly Ducarouge's style. At 41, he's a decisive man with a powerful will to win, his mind searching constantly. Formula 1, for him, is a great and wonderful adventure: it's also his life, even though it places predictable strains on his household arrangemnts. After Italy, England; after Milan, Norwich: his wife Colette works for Alfa Romeo France, so to be with him she has to take little bits of holiday here and there. After the long trip from Paris, the husband she finds is invariably submerged in his work, for he has taken on an incredible task in both technical and human terms.

The little flat in Norwich, which she herself has come to furnish, bears witness to Gérard's new way of life. There's no doubt at all now that he's come to terms with being in England, a situation which



he categorically denied having accepted as recently as the Belgian GP: it was only a matter of a few days before he capitulated to Lotus's blandishments. Quizzed on the phone at the beginning of June, his first sentence of reply demonstrated that his earlier doubts were by no means overcome: *"if only you knew how tough it is up here: I'm wondering if it ever stops being winter..."*

Norwich itself, county town of Norfolk, has its own unmistakeably provincial atmosphere, which makes the move even more difficult for a Frenchman. *"It's true,"* says Ducarouge in his measured tone, *"the prospect of having to spend two or maybe three years in England frightens me silly. For a Frenchman it's no problem to move to Italy, because both nations have a Latin temperament. But with the British the difficulties are multiplied many times over, because here they have their particular traditions and their own may of life, both of which are very different from our own. For me there's the additional cultural shock of finding myself way out here in the sticks. It couldn't be a greater contrast with Paris or Milan: they don't eat the same kind of food here, the schedules are completely different. I don't want to give the impression that I have anything against the British: they're delightful people, full of humour and extremely hospitable. But that doesn't help me feeling that I'm in a different atmosphere. During the daytime Norwich is a lively enough town because it's the focal point in the area for businessman and farmers whose business is growing things or raising cattle. But at 7pm everything comes to a sudden stop, as though someone had put a lid on the place..."*

Not everything about Norwich, fortunately, is negative for Ducarouge. There is the "castle" at Ketteringham Hall, actually a former abbey, where Team Lotus is based, at Wymondham, 10 miles outside Norwich.

"It's a fabulous place. The first time I went there was last year, when Colin Chapman asked me to come and see him after the Austrian GP. It was so delightful that I was dumb-struck. Can you imagine? There's a huge park, with this magnificent piece of architecture in the middle, devoted to the building and servicing of F1 cars. What a difference from those horrible industrial estates where most other Grand Prix teams work. Of course, there's also a touch of folklore about it. Ketteringham Hall has a history of ghosts, which the Lotus people like to encourage: when I arrived I was told about them. One of them, a woman I think, haunts the Hall itself. The other, they say, puts in occasional appearances at the factory where the road cars are built. They say he's one of the American pilots who used to fly bombers from the old airfield there. For the time being I don't have any time to investigate, but this winter, if I have a few moments to myself, I shall be investigating!"

Gérard Ducarouge started to work for JPS-Lotus on June 1. He had no idea in which direction to steer the distinctly leaky vessel which this most famous of British teams had become this year. The only

thing on which he knew he could count for support was Peter Warr, the corner stone of the team, who has taken on the task of keeping Lotus's racing activities going since the death of Colin Chapman last December. It was Warr who had urged Ducarouge for many months to come to Ketteringham Hall: it was Warr who gave him *carte blanche* after the entire staff had been brought together and instructed that from now onwards they were to consider themselves under Ducarouge's orders.

"I got there just before the Detroit GP. Peter Warr took me round the offices and the workshops to introduce me, and then everybody else went off to North America. I was left to myself in a large office, alone and extremely quiet. For the first day and a half I had decided to do nothing, apart from taking stock of the facilities that

The heart of Team Lotus beats in a genteel home: the former abbey of Ketteringham Hall, surely the only F1 workshop with its own ghost. Joining such a British team required a lot of soul-searching from Ducarouge: he had been pestered for months by Peter Warr. (photos: D. Winter; previous page: B. Asset)

would be available to me. The car that the team was trying to race was the 93T, a great big overweight, awkward device, built around a 55 gallon fuel tank which had become as good as useless since Lotus joined the "pit stop" teams at the San Marino GP. On the spot I decided to go for a small monocoque, and it was logical to start with the existing Cosworth-engined 91, the car which Elio de Angelis had used to win the Austrian GP last year. "In fact, the only part of the 91 that we kept was the outer carbon-fibre skin, because we had to make new bulkheads in order to adapt it to the Renault engine. The suspension and steering would be all-new, we had to have a new gearbox casing, and there was bodywork to be designed and made. It was a giant task, which I guess you will understand when I tell you that we threw away all but seven or eight per cent of the old monocoques. In less than a fortnight, before the crew was back from Canada, the drawings were virtually complete. Everybody immediately threw themselves into the job: the target was to have two 94T JPS-Lotuses racing at Silverstone on July 16. In fact Team Lotus is a comparatively small outfit, no more than around 50 employees, and we had to rely very heavily on outside contractors, both locally and in France, in order to get many of the parts made."

Five weeks. It's now a historic figure, probably a record. Yet it was enough to put together two cars, more than 90 per cent of whose content was brand new. *"It was an astonishing piece of teamwork: Peter Warr; Martin Ogilvie, in charge of the drawing office; Tony Jones, the chief fabricator; the designers; the bodywork specialists; Tim Densham and Steve Hallam, the race engineers who made it all come together; and of course the mechanics. Every one of them excelled himself. They worked so splendidly, in fact, that if you'd been observing the project as an outsider you'd probably have said it all looked quite easy. In fact, everybody was working flat-out. Some departments were at it 24 hours a day, organised into shifts so that they could snatch some sleep. But most of us were living so much on our nerves that even when we lay down it was almost impossible to drop off. For me, in addition to the excitement and the fatigue, there was the fact that I was also living out of a small suitcase in a hotel room. I guess I was starting to turn into a zombie. Once again, though, I must emphasise that no one person can claim the credit for what we did, because this was a team that had fallen into the doldrums but had suddenly got itself caught up with a motivation that until then I never even guessed was there..."*.

Not even at Alfa Romeo? Probably not, but Gérard Ducarouge politely changes the subject. Apparently it would not do to compare the two projects, the one Italian and the other British. At Alfa there were constant political intrigues, trade unions, individual business considerations, haphazard organisation. Pressed for a comparison, Ducarouge recognises that *"at Lotus the big difference is that the areas of responsibility are clearly defined"*. Furthermore, his own duties — both at Milan and Wymondham — were twice what they had been at Ligier or at Matra. The engineer in him became, also, a human catalyst: the man of ideas an orga-

→

niser. How else can you explain that it took him only a day and half of contemplation to find the energy to blow away the black cloud under which Team Lotus had been floundering for several months? It's a question that requires a delicate reply, because it obliges him to blow some personal trumpet and to belittle the work of his predecessors.

"I don't really want to go into the subject of why everything was so bad before: let's just say that their way of tackling the design of a Grand Prix car is a lot different from mine..." It's a nicely judged response, but it doesn't really get to the bottom of the matter: so just what is the extra "Ducarouge" ingredient, and how does he explain his ability to turn a team around?

"I don't honestly have many good qualities. I have a big mouth, a pushy attitude which upsets some people, and I talk too much. In the heat of the moment I tend to say undiplomatic things which my colleagues remember. But I think it is remarkable that back in the great days of the JS11 at Ligier, then during the touchy period with Alfa Romeo, and now at the beginning of my association with Lotus, I have managed to give my best shots to three very different teams, each from a different country. I've now been in racing for 18 years, and you have to go back to the Matra days to find out where I acquired my know-how. In 12 years Matra pulled off more than 200 victories, in Formula 3, Formula 2, Formula 1 and in Sport-Prototype racing. I was young then, but I was involved with an organisation that gave me fantastic education. In many ways Matra came close to perfection, despite the fact that they were never completely successful in Formula 1. There was a particular approach to the job there, a faultless attitude to organising: it was an incomparable experience and I think I took it with me to Ligier. It probably explains the "golden rules" I've made which enable a designer to produce a good, competitive chassis, almost without taking any risks or stepping too far into the unknown. True, I was worried that I might have outfoxed myself with the 94T, but basically — since I had applied my golden rules — I wasn't in any serious doubts..."

In Formula 1 there are two different types of good engineer, the "crazy magicians" and the "practical realists." A man like Gordon Murray belongs to the first category, because if he weren't bound by the tight limitations of the rulebook the chances are that he'd be off designing some fantastic device, completely unlike anything which had ever gone before. That's not what you'd expect of a Ducarouge, and there's no insult intended to him when I suggest that he might not be able to stand up in that sort of company. As a positive and outstandingly pragmatic man, conscientously applying his "golden rules," he is at present the shining example of the "do it straight" and "take no risks" school of thought. Thus it was, both with Alfa Romeo and at JPS-Lotus, that he was brought in as a means of salvation. His brief was to provide a good car "out of the box," at the earliest possible opportunity, in order to rescue his employers from the dangers which they faced in the near future. This is probably the reason why the JPS-Lotus project, albeit only just begun, is likely to be merely transitory for him.

"One or two years, perhaps, but not more: this is definitely just a stopping point for me, not a permanent position. For several seasons now I've been gaining terrific experience, all in different countries, and I can see myself moving on again, if only because of the weather. My part of England is a land of silence and fog, while I am the child of the sun. The south of France is my garden, California my ideal place of exile. For more than a year now I have felt the need to set up my own racing team. I have my own very personal work methods, and in Formula 1 the only type of organisation which works right is the pyramid: if it's not me who's at the top of the pyramid, inevitably there will be frictions, because of my big mouth. As I acquire age and experience, too, I am finding it less and less easy to accept the constraints of not being my own boss".

Engine failures, electrical conundrums and several off-road excursions have dogged the progress of the promising Lotus 94T in its first three races, at Silverstone, Hockenheim and Osterreichring. But the project has hardly begun, and it's clear that it has put new confidence into Elio de Angelis and Nigel Mansel. (photos: B. Asset)

Fortunately for Duca, his love of the sun and the desire to start up in racing on his own are not totally incompatible objectives. *"I can see myself starting a Grand Prix team near the Paul Ricard circuit: it would be completely French, I would be in my beloved Provence, and there would be the fabulous Ricard facility. Unfortunately, it would also need an enormous budget, probably so big that only a major car manufacturer could afford to provide the funds. That's why a move to California would also be worth considering: an Indy-car project sounds like an interesting idea, and it would be yet another step along the motorsport road. If it came off, I wouldn't do things by halves, as I am at present, because I would want to spend at least five years in American racing..."*

At the moment, of course, there's precious little time for "Ducablack" (as the British journalists have now affectionately dubbed him) to let his imagination wander. At Ketteringham Hall, in his little Norwich apartment, and throughout the private test sessions which the team has been doing since the British Grand Prix, the JPS-Lotus 94Ts have been uppermost in his mind. Any idle moments are devoted to the 95T, an entirely new Renault-powered chassis, which may be ready to race before the end of the season.

"Considering how well Elio went in practice at Silverstone, and Nigel's performance in the race, I am convinced that our cars could have won there. However, they were so new that we left the set-up virtually the same as it was when the cars left the factory. Before you can start developing a car, it's essential to find out how the tyres are behaving."

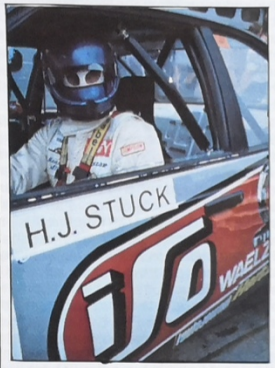
It would appear that the Pirelli radials were a source of worry to Ducarouge when he arrived at Ketteringham Hall. In the course of our first phone call there (the one where he mentioned the English winter) he gave the distinct impression that he expected the worst of the Pirellis: *"unfortunately, I think that we'll be hurting badly on lap times, simply because the tyres aren't up to the job..."* At Silverstone, however, Elio's qualifiers proved to be excellent, while in the race the harder compound rubber on Mansell's car gave an equally fine account of itself. All that Pirelli's products needed, perhaps, was a decent chassis to demonstrate their qualities. One race was, nertheless, not enough to reassure Ducarouge, who would only he happy if he could try a back-to-back test on a 94T between Pirelli, Michelin and Goodyear. It will never be known now whether rumours at Silverstone — to the effect that Lotus's tyres would have been withdrawn if the new car had proved to be uncompetitive — had any truth to them...

On the evening of that race at Silverstone, members of the F1 "family" continued to stop by at the JPS-Lotus motorhome. Life is like that: if you're a backmarker no one wants to know you, but if you're a hit everyone wants to shake your hand. *"Ever since the end of the first day's practice the congratulations poured in. I scarcely had time to give them any attention.*

"Yet throughout the past weeks which I have spent with Peter Warr and his men, quite apart from the remarkable adventures which we've had together, there's one little memory which will stay with me for a long time to come. On the day I arrived in Norwich, I dropped my luggage off at the hotel and went for a little walk in the town. I had an hour to kill and I wanted to know the kind of place where my life was going to be spent. The road took me to a little covered market place with very narrow passages past the stalls, full of shoppers and farmers. A shy-looking kid followed me for several dozen yards, then suddenly he plucked up courage and ran towards me to ask for an autograph. I saw his eyes light up joyfully: moments like that are one of the privileges of life."

Thus it would appear that the man with the golden fingers has a heart fashioned from the same metal. It's something which can only go to make him an even more delightful person.

Postcard from Hockenheim



Hans gets Stuck into his BMW racing

Is this what they mean by 'going into the Boonies'...

Allegro con Elio at the playboy party

A painting to remind Renault's Jean Sage of a happy day playing with a real F1

No suggestions, how she could more comfortable...

please, about make herself

Still racing (with a Peugeot 505 turbo), one-time F1 star Jean-Pierre Beltoise is also still winning

Hair we go again

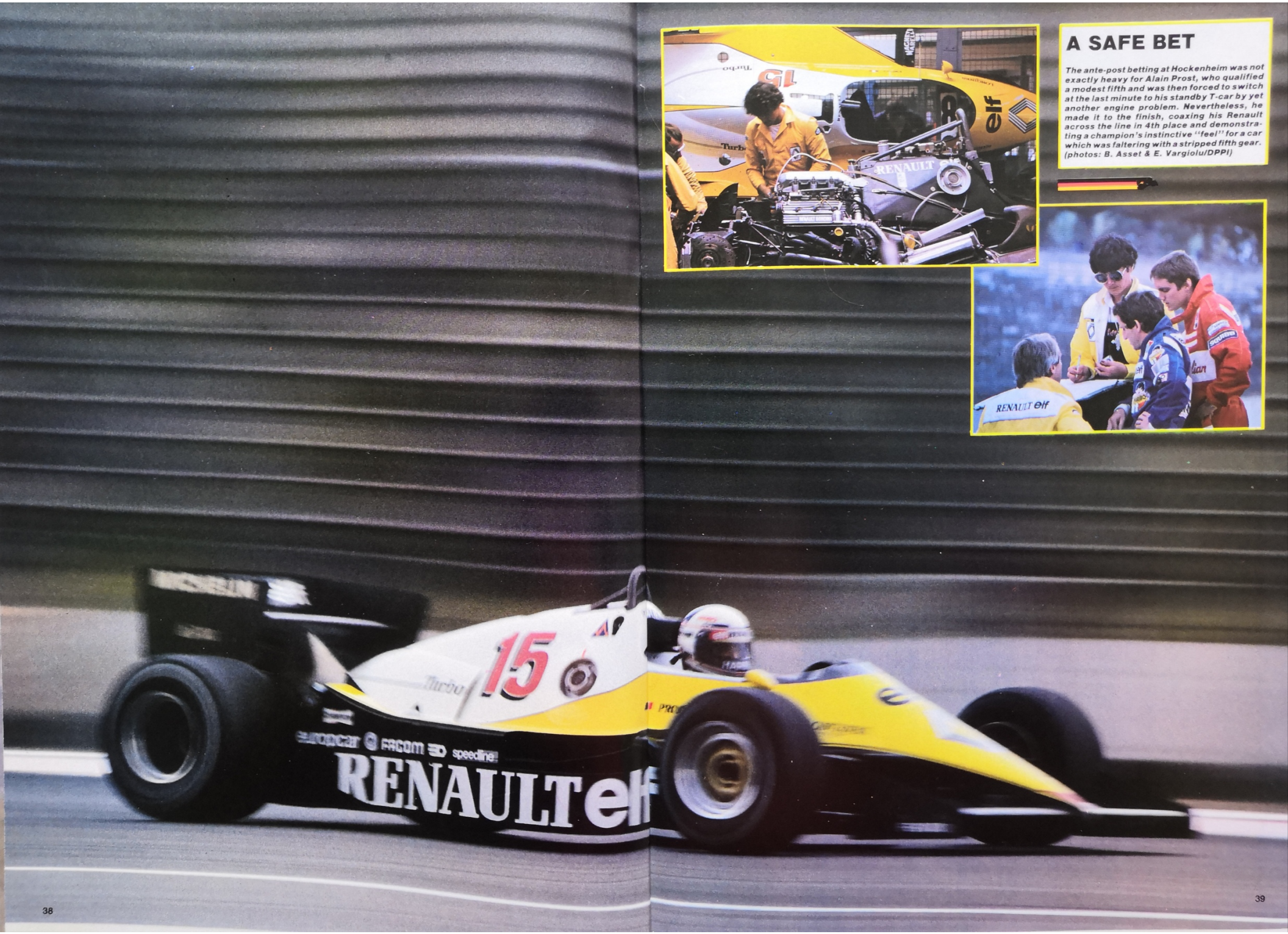
Johanssoy takes Keke's advice to smarten up with some Boss tailoring

SANCTUMS OF SPEED

Hockenheim's concrete vastness warms up every August under a baking sun, which never fails to attract a huge crowd of enthusiastic Germans. But is Grand Prix racing shown to its best advantage in a cement stadium? Nürburgring fans think that they will have the answer next year, when they expect to have their national GP back in the Eifel mountains for the first time since 1976, at a new, shorter circuit.
(photo: Autopresse)

FLAMED OUT

With an eager crowd of thousands as his back-cloth and a banked stretch of road as his stage, Nelson Piquet makes a dramatic stadium entrance at Hockenheim. Fate decreed that he wasn't to finish the race, for a tuppeny-halfpenny fuel filter split and started a fire. Paradoxically, it had nothing at all to do with the Dante's Inferno of flame which is produced so frequently, on the over-run, from the exhaust pipe of his Brabham's BMW turbo engine.
(photo: B. Asset)



A SAFE BET

The ante-post betting at Hockenheim was not exactly heavy for Alain Prost, who qualified a modest fifth and was then forced to switch at the last minute to his standby T-car by yet another engine problem. Nevertheless, he made it to the finish, coaxing his Renault across the line in 4th place and demonstrating a champion's instinctive "feel" for a car which was faltering with a stripped fifth gear. (photos: B. Asset & E. Vargiolu/DPPI)

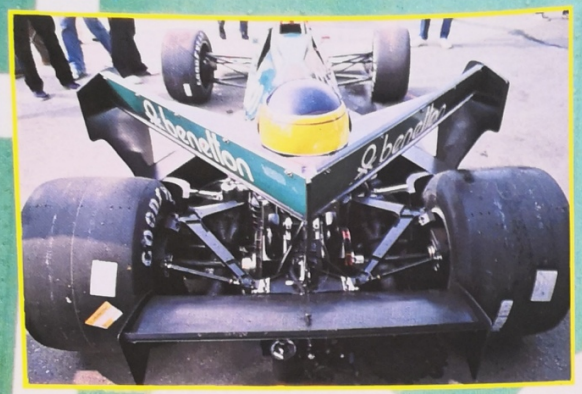
SNAKING A THIRST

Pit stops for tyres and refuelling have become such an exciting part of the F1 scene that it's worth recalling how they were criticised on safety grounds only a few months ago. Yet they make great TV viewing, and spectators edge forward in their seats as half distance comes up. As this shot of Keke Rosberg's stop suggests, our photographer was caught up—almost literally—in the excitement at Hockenheim as the Williams mechanics dashed forward with their serpentine hoses.
(photo: B. Asset)

HARVEST OF DELIGHT

Laid out in the foothills overlooking the Styrian parish of Zeltweg, the Osterreichring winds its unique and challenging way past forest and field. Through its super-fast banked turns, F1 machinery has to be set up and driven with a touch of delicacy that makes this circuit such a contrast with the concrete vastness of some others. We know which we prefer...
(photos: B. Asset & DPPI)

Tyrrell Team



GIANT BOOMERANG

Ken Tyrrell's latest model, the Cosworth-engined 012, attracted a lot of attention at the Osterreichring. Designer Maurice Phillippe has finished off his new baby with a flourish in the form of this enormous swept-forward dihedral wing. After half an hour's running on Friday, Michele Alboreto asked for it to be replaced with the conventional item, and the British engineer noted on his clip board "car nervous in middle of corner with this wing." The Italian was destined to start the race with his regular 011, but Zandvoort could see another page turn in the Tyrrell history.

(photo: B. Asset & DPPI)

ITS MASTER'S SHADOW

It was not so much the rather average performance of the ATS-BMW at the Osterreichring as the photographer's penetrating treatment of the subject that made us decide to let you see this photo. The domineering shadow of Gunther Schmid, all-powerful owner/manager of the ATS team, casts its powerful presence on the tiny carbon fibre cockpit.
(photo: B. Asset, Canon 14 mm fish- eye)

MUZZLED THREAT

Don't trust the reassuringly smooth curves of this scarlet beauty: the Ferrari 126C3 has the power (and more) to bite back. Patrick Tambay and René Arnoux had the front row of the Austrian grid to themselves, just as they had done at Hockenheim exactly a week earlier, and they had a fine opportunity to show that they must never be overlooked, even when victory finally goes to someone from a rival camp...
(photos: First Line & B. Asset)

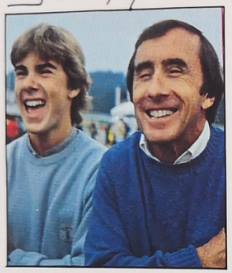
Postcard from Zeltweg

Doesn't Williams give you lunch?

A Pegs-up tomorrow

Come on Prost!

Jarier, you're an ace!



The left one goes at Zandvoort!

Charming the snake oil...

Steeple-Chasing

It's got to be freudian

MAN'S HOPE

He came to Hockenheim as though to cock a snook at fate. A year earlier fate seemed to have said he would never race again, but on the eve of Saturday practice, at five o'clock sharp, he found the Ferrari spare, mute and somnolent in its hermetically-sealed garage. Far from the curious, he slipped into it: to recapture former feeling, to take yet another step in the war he wages to become once again himself, that is, Ferrari's Number One driver.

by Xavier Chimits

For a quarter hour then, while the Ferrari engineers, Forghieri and Tomaini, looked on, he did his heel-and-toe routine with his right ankle. It was torture, but he had to know if his feet were mobile and quick enough to work the pedals, if he were as limber as a pianist at his keyboard. The test worried him, for his return to competition depends on that right ankle, which has still not touched the ground. When gingerly he extracted himself from the cockpit of the Ferrari, Didier Pironi knew he hadn't come to Hockenheim in vain.

People who think that those who speak slowly also think slowly are in grave error. Didier Pironi's voice may be gentle and thoughtful, but he has a very clear talent for the *mot juste*. Thus, when talking about his chances of returning to Formula One, he is more than just finicky in his choice of words. *"Have I any cause for optimism? Well, I have none, none at all, to be pessimistic. And that, when I think of what might have happened, is already a miracle. I recently went back to see Dr. Michiewski, who was the first to look after me in the Heidelberg clinic right after the accident. He admitted he thought both my ankles would be jammed forever. I can think of no better tribute to Dr. Le-*

→

Saturday afternoon at Hockenheim, one year later: Didier Pironi celebrates with the help of Ferrari's two front row men and a bottle of champagne. Behind the smiles lies a year of pain, with hopes for a happy return. There were two winners at Hockenheim, both of them members of Scuderia Ferrari. (photos : B. Asset and First Line).

One was well on his way last year to becoming France's first world champion, the other has the 1983 title in his grasp. But there's nothing to be gained by thinking in terms of might-have-beens... (photo: B. Asset)

Jean-Pierre Jabouille now owns a restaurant in Paris, while Jose Dolhem (Pironi's cousin) is a director of the family construction business. Both had their racing careers cut short by accidents (Dolhem's outside racing), but Didier is not about to join them in retirement, for he is still very much an F1 driver. (photo: B. Asset)

tournel.

"I admit to being a little apprehensive when I got into the Ferrari at Hockenheim. For six months now I've been driving a road car and paradoxically, I must say it is infinitely more painful to use the pedals in an ordinary car than in a single-seater. The pedals are not designed for a heel and toe movement; they are harder and longer. I had been thinking about this test for a long time and in fact I'd had a set of drawings sent me and taken a whole series of measurements. But a doubt remained. Now it's been wiped out.

"I'd recently met Marc Surer during a vintage car race in Lausanne, and my right ankle seems to have more mobility than his, certainly more lateral movement. But he told me he never gave it a thought and that it didn't bother him driving at all. I have a third reference, and the most reliable of all: the opinion of Dr. Letournel. He looked after Patrick Depailler when he had his hang-gliding accident. He assures me that Patrick's ankle was in far worse shape than mine.

"So I feel completely confident that my right ankle is mobile and that I can perform, precisely and quickly, the necessary movements with my foot. What I must do now is make further progress in rebuilding my muscles and in sheer stamina. Driving a Formula One car for two hours is going to take more than a week's preparation.

"In fact, it is less a matter of sheer strength than of the resistance of my right tibia. On June 6th, Dr. Letournel did a bone graft to fill in the missing fragment of the tibia. I must now wait until the graft 'takes': that is, until the little bits of bone consolidate. The graft was deliberately left open to heal of its own, and every day I go to the clinic, which is at the Porte de Choisy, so that the opening can be irrigated, which helps to activate the tissue and keep the wound aseptic.

"In about two weeks I should be able to begin working on my muscles and begin the rebuilding process. From that point on, I should make rapid progress. I've asked Tico Martini to make me an exact replica of the F1 pedals so that I can simulate the movements I would have to make during a race. The only unknown factor is whether the bone will stand up to the strain. While I was in the Ferrari, I obviously wasn't pushing right down on the pedals as I would during a race: my tibia is still a frail structure and it wouldn't have stood up to the strain. But that's the next, and certainly the final stage."

After that comes the trial at the track. Give or take a tenth of a second, will he ever be again the driver who so completely dominated last year's world championship? You can't sneak about the question; it has to be asked. And even as you ask, in a corner of your mind you think of the agony Jean-Pierre Jabouille underwent:

"My goal remains unchanged: I drive to be World Champion. If I see I can't reach the goal I've set myself, it all becomes very simple. I will retire from any form of motor racing. I know there are a hundred ways to rationalize, but I know that I will never lie to myself. I reached a certain level in F1; I have no intention of slipping down the slope. I'd rather leave myself, and others, the image of the driver I was, rather than tarnish that image by continuing. I think I am honest enough and sufficiently exacting with myself to take that decision on my own. So I do not intend to come back into F1 just to drive in F1 or just to please myself. That would be both stupid and dangerous. Besides, there's much else I would like to explore.

"Jabouille's troubles stem from his desire to return to F1 before he was ready; there were people who did not understand his problems and pushed him to it. I am not in that position and in no way do I intend to be pushed into it. Enzo Ferrari said it once after the accident and he has repeated it since: the day when I think I am able to return to F1, there will be a car for me at Ferrari. And not just a number three car, either...

"I am quite certain that at any moment I want I will have at my disposal a car with which I will be able to make my bid for the championship. But I have no need to hurry. I don't have to eat myself up inside worrying whether so-and-so isn't going to take over my drive; or think that if I don't get right back behind the wheel I'll never drive again. I'm a very lucky man; in terms of my morale, that's a trump card. Enzo Ferrari has put no term at all on my return. If Jean-Pierre had had employers who were more thoughtful, he might still be driving in F1 today."

There may be no term and while Pironi doesn't like to be pushed into giving a possible date, he must have some thought within himself, some day on which he thinks his future will be decided: *"I don't know myself; nor do the surgeons. Nature decides. I have defined the stages, but I keep them to myself. There are just too many imponderables to be taken into account. I know that in the past I sinned through optimism, or more accurately, through naiveté. At the start, I didn't really take into account the seriousness of my injury; nor did the doctors contradict me in those early days. That is quite normal: they're not in business to lower a patient's morale.*

"But I can say that for the past six months I have been ahead of schedule, at each and every stage. My goal is to be present on the track as of the beginning of the 1984 season. I think that's a reasonable goal. But I am at the mercy of any chance infection. It's a sort of gesture of defiance if you will, and I will do everything I can to make my challenge stand."

An injured driver always poses a problem for his interviewer. Embarassment clouds directness. But as this interview went on, the cloud lifted, swept away by the conviction and moral strength of this man who has struggled for over a year to restore his own body. The idea of coming back into F1 is like a beam on a dark night: a home port to go towards and resume his rightful place. A year away from the track, a year of operations and recuperations, has only made his thirst for racing that much stronger. From adversity, he has drawn new strength.

"At the time of the accident, I was on the verge of the championship. I feel healthily frustrated. When I start anything, it's to bring it to completion. I started racing with a single object: to push myself to the limits of my possibilities. If, when I raced in Formula Renault, I had thought myself without the necessary qualities to be a professional driver, I would have stopped there. And no regrets. But my passion for the sport has grown commensurately with my ambitions. Had I won last year, I would have retired with a feeling that I'd achieved what I set out to do. I knew, however, that Enzo Ferrari counted on me for 1983 and 1984. I felt I was tacitly tied to him and I would probably have postponed my retirement.

"I have often read that I am the moral champion of 1982. That's a meaningless phrase. We play this game by very precise rules. The champion is the man who after the last grand prix has the greatest number of points. The rest is just literature. It's not enough for me to have proved that I might have won the championship. More than ever I now want to be champion. Then I will turn the page and pass to something else. The accident changed nothing: at most, an outcome in time. I repeat, I will only come back to F1 if I feel up to winning the championship."

Mature beyond his age, and certainly beyond his baby face, the young man who raised tulips and came to astronomy because his catechism could not answer the question that so intrigued him -- what is the origin of life? -- has undergone an experience which has only sharpened his lucidity and increased his maturity: *"I've found a strength in myself I didn't know existed. You have to live through an experience of this kind to discover its positive aspects. I now know how to accord each element and event of life exactly what is due to it.*

"Before my accident, just walking around, seemed to me perfectly natural. But when from one day to the next you're deprived of one of your limbs, of one of your senses or, more generally, of the exercise of your freedom, your version of life is altered. Life is a gift. It's a privilege to know that. I think you only find that out by living through an ordeal such as I have come through.

"I remember early days in the hospital when people stood around my bed and I thought them indecent for not realizing how lucky they were. Before Hockenheim, my life was simple and straightforward: a happy childhood, a constant rise in my chosen profession, the perspective of a world championship and not so much as the tiniest broken bone. Since then I've been alongside people who will remain forever crippled, without the slightest prospect of cure. Out of respect for them, I feel I have no right to complain.

"But I never suffered a single moment of revolt. To put in bluntly, what helped me through that stage was all the accidents I'd been close to: Peterson, Rega, Patrick Depailler, Gilles, Paletti. I never had any faith in my invulnerability. I was psychologically prepared that one day it would be my turn. When I discussed safety, I found few drivers who could look on accidents with the necessary cool detachment. A year ago, only a quarter of them were insured, which says a lot, even though the situation is different now."

This new maturity is vital to him in his quest for the championship: *"I feel mentally stronger than ever before. I've reached a point of motivation of which I never thought myself capable. From here on in I will be far more exacting of myself, I will forgive myself less, and I will tend to but one goal: the world title."*

As he delivers these phrases, Didier raises his arm in a clenched fist: the gesture of the man who throws down a challenge.

"All in all, racing has given me the greatest joys of my career; but if I had to give it up, I wouldn't make a great drama of it. I have other interests: aviation, business. I have interests in gymnasia and buildings in Paris; my cousin, José Dolhem, my parents and I have two construction businesses: Sud Est Travaux Batiments and BETS 2000; *I also continue to develop Euro-Nautic, which imports and charters boats.*

"I am also deeply interested in politics. It's a milieu I've lived in, thanks to my father, since childhood, and my activity on behalf of the PRDA (Professional Racing Drivers Association) *is closely linked to politics. It's not a particularly noble area of life but it's the only thing that actually makes things happen, in motor sport as elsewhere. It's childish to deny it. It's due to politicking that drivers now have a voice in the F1 Commission. But all these projects are somehow on the back burner with me: my immediate future is in F1."*

As an extra sign of the confidence he has in Pironi, Enzo Ferrari keeps him by his side as he seeks to attract this or that driver. *"He asks for my opinion. I don't know if he pays it any heed, but I derive pleasure from it. In the same way as I was touched by the reactions of the drivers I saw at Hockenheim. They didn't treat me like some wounded veteran come to pay them a visit; my name is mentioned in talk of transfers, and that intrigues them. Their attitude made me feel I was still a member of the family."* □

Hockenheim statistics

GERMAN GRAND PRIX

Date: 7 August 1983
Circuit: Hockenheim
Circuit length: 6.79 km (4.22 miles)
Race distance: 45 laps (305.86 km/190.05 miles)
Weather: Dull, overcast
Race attendance: 150,000

RECENT WINNERS

1977 : Niki Lauda (Ferrari)
1978 : Mario Andretti (Lotus)
1979 : Alan Jones (Williams)
1980 : Jacques Laffite (Ligier)
1981 : Nelson Piquet (Brabham)
1982 : Patrick Tambay (Ferrari)

GRID

Arnoux Ferrari 126C3 1'49"435	**Tambay** **Ferrari 126C3** **1'49"328**
Piquet Brabham BT52B-BMW 1'51"082	De Cesaris Alfa-Romeo 183T 1'50"845
Cheever Renault RE40 1'51"540	Prost Renault RE40 1'51"228
Patrese Brabham BT52B-BMW 1'52"105	Baldi Alfa-Romeo 183T 1'51"867
Giacomelli Toleman TG183B-Hart 1'54"648	Warwick Toleman TG183B-Hart 1'54"199
Rosberg Williams FW08C-Cosworth 1'55"289	De Angelis Lotus 94T Renault 1'54"831
Boutsen Arrows A6-Cosworth 1'56"015	Johansson Spirit 201C-Honda 1'55"870
Alboreto Tyrrell 011-Cosworth 1'56"398	Laffite Williams FW08C-Cosworth 1'56"318
Lauda McLaren MP4-1C-Cosworth 1'56"730	Mansell Lotus 93T-Renault 1'56"490
Surer Arrows A6-Cosworth 1'57"072	Jarier Ligier JS21-Cosworth 1'57"018
Cecotto Theodore N183-Cosworth 1'57"744	Sullivan Tyrrell 011-Cosworth 1'57"426
Guerrero Theodore N183-Cosworth 1'57"790	Watson McLaren MP4-1C-Cosworth 1'57"776
Ghinzani Osella FA1E-Alfa Romeo 1'58"473	Boesel Ligier JS21-Cosworth 1'58"413

Did not qualify:
Acheson/March RAM 01-Cosworth 1'59"003
Fabi/Osella FA1E-Alfa Romeo 2'01"113
Winkelhock/ATS D6-BMW No time

PROVISIONAL PLACES IN THE DRIVERS' WORLD CHAMPIONSHIP

(After the Brazilian, Long Beach, French, San Marino, Monaco, Belgian, Detroit, Canadian, British and German Grands Prix.)

											Total
1. Prost	—	—	9	6	4	9	—	2	9	3	42
2. Piquet	9	—	6	—	6	3	3	—	6	—	33
3. Tambay	2	—	3	9	3	6	—	4	4	—	31
4. Arnoux	—	4	—	4	—	—	9	2	9	—	28
5. Rosberg	—	—	2	3	9	2	6	3	—	—	25
6. Watson	—	9	—	2	—	4	1	—	2	—	18
7. Cheever	—	—	4	—	—	4	—	6	—	—	14
8. Lauda	4	6	—	—	—	—	—	1	—	—	11
Laffite	3	3	1	—	—	1	2	—	—	1	11
10. Alboreto	—	—	—	—	—	—	9	—	—	—	9
11. De Cesaris	—	—	—	—	—	—	—	—	6	—	6
12. Surer	1	2	—	1	—	—	—	—	—	—	4
Mansell	—	—	—	—	—	—	1	—	3	—	4
Patrese	—	—	—	—	—	—	—	—	—	4	4
15. Sullivan	—	—	—	—	2	—	—	—	—	—	2
16. Cecotto	—	1	—	—	—	—	—	—	—	—	1
Baldi	—	—	—	—	—	—	1	—	—	—	1

RESULT

1. Arnoux/Ferrari 126C3	45 laps (190.05 miles) in 1 hr 27m 10.32s, average speed 210.52 km/h	
2. De Cesaris	Alfa Romeo 183 T	1 m 10.65s behind
3. Patrese	Brabham BT 52 BMW	1m 44.09s behind
4. Prost	Renault RE 40	2m 00.75s behind
5. Watson	McLaren MP4 1C-Cosworth	1 lap behind
6. Laffite	Williams FW08C-Cosworth	1 lap behind
7. Surer	Arrows A6 Cosworth	1 lap behind
8. Jarier	Ligier JS 21-Cosworth	1 lap behind
9. Boutsen	Arrows A6 Cosworth	1 lap behind
10. Rosberg	Williams FW08C-Cosworth	1 lap behind
11. Cecotto	Theodore N 183-Cosworth	1 lap behind
12. Sullivan	Tyrrell 011-Cosworth	2 lape behind

N.B.: Niki Lauda (provisionally placed 5th) disqualified for reversing in pit lane during refuelling stop.

PROVISIONAL PLACES IN THE CONSTRUCTORS' WORLD CHAMPIONSHIP

1. Ferrari 59 pts ; 2. Renault 56 pts ; 3. Brabham 37 pts ; 4. Williams 36 pts ; 5. McLaren 29 pts ; 6. Tyrrell 11 pts ; 7. Alfa Romeo 7 pts ; 8. Arrows 4 pts ; 9. Lotus 4 pts ; 10. Theodore 1 pt .

PRACTICE TIMES

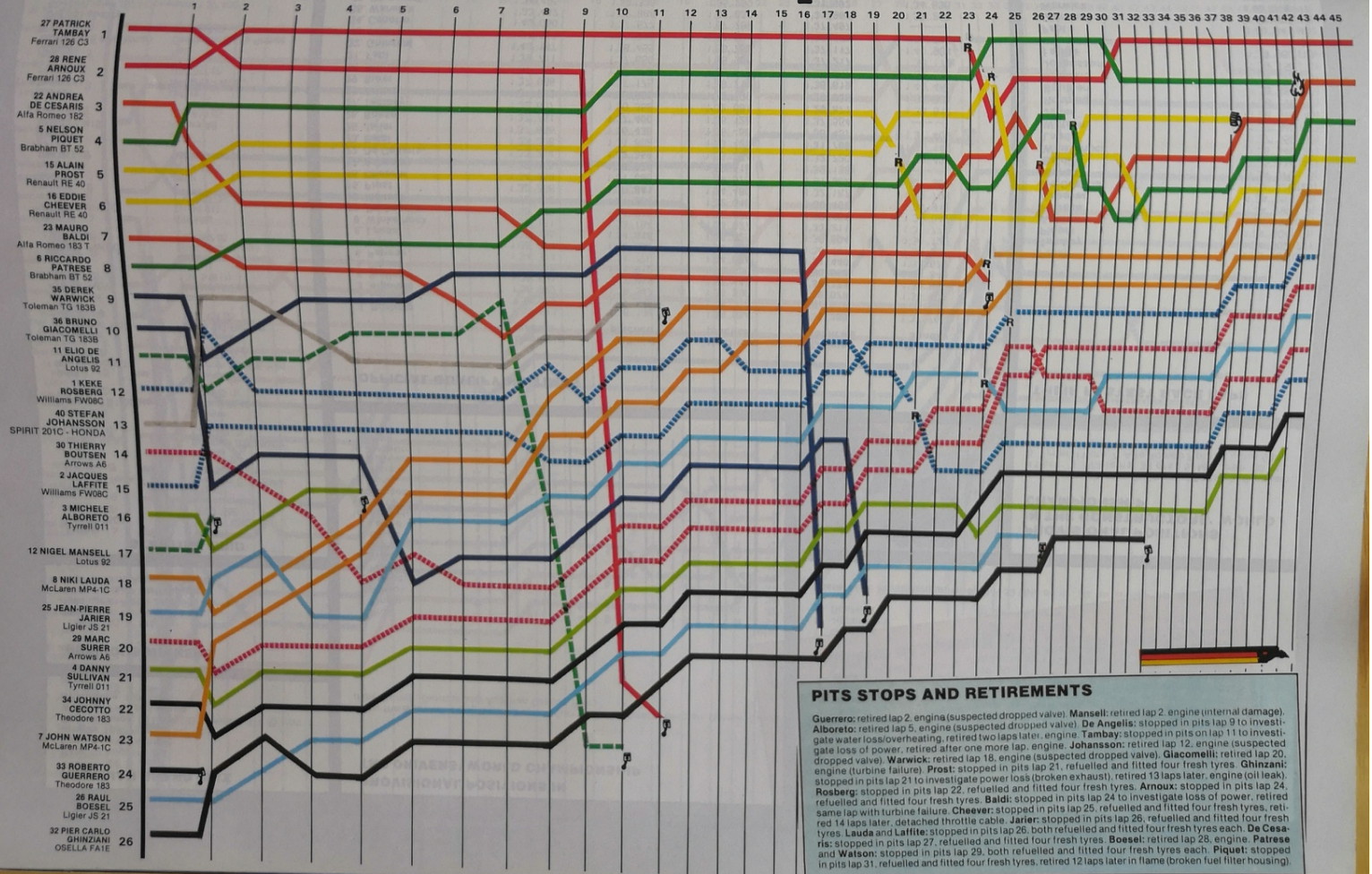
	Untimed practice 1	Timed practice 1	Untimed practice 2	Timed practice 2	Sunday warm-up
1. Rosberg	1'58"805	**1'55"289**	2'11"665	2'13"377	1'58"698
2. Laffite	1'56"782	**1'56"318**	2'15"006	2'15"838	1'58"262
3. Alboreto	1'56"088	**1'56"398**	2'11"831	2'15"547	1'59"231
4. Sullivan	1'57"960	**1'57"426**	2'13"884	2'18"376	2'00"124
5. Piquet	1'52"657	**1'51"082**	2'09"929	2'16"969	1'55"804
6. Patrese	1'53"555	1'52"105	— — —	— — —	1'56"279
7. Watson	1'57"208	**1'57"776**	2'12"313	— — —	1'57"052
8. Lauda	1'56"433	**1'56"730**	2'12"737	— — —	1'56"815
9. Winkelhock	1'55"650	— — —	2'09"978	— — —	— — —
11. De Angelis	1'56"212	**1'54"831**	— — —	2'14"182	1'58"751
12. Mansell	2'18"782	**1'56"490**	— — —	— — —	1'58"245
15. Prost	1'52"384	**1'51"228**	2'07"294	2'13"620	1'55"327
16. Cheever	1'52"738	**1'51"540**	2'07"903	2'09"752	1'55"874
17. Acheson	2'00"532	1'59"003	2'16"067	2'20"758	— — —
22. De Cesaris	1'52"973	**1'50"845**	2'09"792	2'16"694	1'55"580
23. Baldi	1'53"643	**1'51"867**	2'13"962	2'15"218	1'56"034
25. Jarier	1'57"058	**1'57"018**	2'14"037	2'15"326	1'59"558
26. Boesel	1'59"589	**1'58"413**	— — —	— — —	2'01"848
27. Tambay	1'53"060	**1'49"328**	2'08"188	2'10"057	1'55"529
28. Arnoux	1'52"998	**1'49"435**	2'07"237	2'09"594	1'54"982
29. Surer	1'57"553	**1'57"072**	2'10"921	— — —	2'00"174
30. Boutsen	1'57"389	**1'56"015**	2'12"424	— — —	2'00"503
31. Fabi	2'03"136	**2'01"113**	2'18"178	2'22"859	— — —
32. Ghinzani	1'59"598	**1'58"473**	2'18"909	2'19"172	2'02"082
33. Guerrero	1'58"159	**1'57"790**	2'14"048	2'17"479	2'00"957
34. Cecotto	1'57"87[illegible]	**1'57"744**	2'14"409	2'15"753	2'00"607
35. Warwick	1'56"773	**1'54"199**	2'10"656	2'13"461	1'56"548
36. Giacomelli	1'54"780	**1'54"648**	2'11"523	— — —	1'57"090
40. Johansson	1'55"705	**1'55"870**	2'12"701	— — —	1'58"068

FASTEST RACE LAPS

Fastest race lap: Arnoux on lap 12, in 1m 53.938s, 133.44 mph (214.75 km/h).

Arnoux	1'53"938 (12)
Tambay	1'54"365 (8)
Piquet	1'54"495 (37)
Prost	1'54"793 (19)
Cheever	1'55"031 (19)
De Cesaris	1'55"311 (17)
Patrese	1'55"510 (11)
Baldi	1'56"037 (20)
Warwick	1'56"271 (14)
De Angelis	1'56"295 (5)
Lauda	1'57"297 (10)
Watson	1'57"681 (6)
Laffite	1'57"858 (23)
Giacomelli	1'58"122 (13)
Johansson	1'58"251 (11)
Jarier	1'58"523 (18)
Surer	1'58"727 (31)
Rosberg	1'59"092 (7)
Alboreto	1'59"672 (3)
Boutsen	1'59"689 (25)
Cecotto	*2'00"147 (25)*
Sullivan	*2'00"571 (20)*
Boesel	*2'01"823 (22)*
Ghinzani	*2'03"418 (4)*
Mansell	*2'12"136 (1)*
Guerrero	*No time given*

ap by lap - Giro per giro - Runde um runde - Tour par tour - Vuelta a vuelta - Ronde


1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45
27 PATRICK TAMBAY Ferrari 126 C3 1
28 RENE ARNOUX Ferrari 126 C3 2
22 ANDREA DE CESARIS Alfa Romeo 182 3
5 NELSON PIQUET Brabham BT 52 4
15 ALAIN PROST Renault RE 40 5
16 EDDIE CHEEVER Renault RE 40 6
23 MAURO BALDI Alfa Romeo 183 T 7
6 RICCARDO PATRESE Brabham BT 52 8
35 DEREK WARWICK Toleman TG 183B 9
36 BRUNO GIACOMELLI Toleman TG 183B 10
11 ELIO DE ANGELIS Lotus 92 11
1 KEKE ROSBERG Williams FW08C 12
40 STEFAN JOHANSSON SPIRIT 201C - HONDA 13
30 THIERRY BOUTSEN Arrows A6 14
2 JACQUES LAFFITE Williams FW08C 15
3 MICHELE ALBORETO Tyrrell 011 16
12 NIGEL MANSELL Lotus 92 17
8 NIKI LAUDA McLaren MP4-1C 18
25 JEAN-PIERRE JARIER Ligier JS 21 19
29 MARC SURER Arrows A6 20
4 DANNY SULLIVAN Tyrrell 011 21
34 JOHNNY CECOTTO Theodore 183 22
7 JOHN WATSON McLaren MP4-1C 23
33 ROBERTO GUERRERO Theodore 183 24
26 RAUL BOESEL Ligier JS 21 25
32 PIER CARLO GHINZIANI OSELLA FA1E 26

PITS STOPS AND RETIREMENTS

Guerrero: retired lap 2, engine (suspected dropped valve). **Mansell:** retired lap 2, engine (internal damage). **Alboreto:** retired lap 5, engine (suspected dropped valve). **De Angelis:** stopped in pits lap 9 to investigate water loss/overheating, retired two laps later, engine. **Tambay:** stopped in pits on lap 11 to investigate loss of power, retired after one more lap, engine. **Johansson:** retired lap 12, engine (suspected dropped valve). **Warwick:** retired lap 18, engine (suspected dropped valve). **Giacomelli:** retired lap 20, engine (turbine failure). **Prost:** stopped in pits lap 21, refuelled and fitted four fresh tyres. **Ghinzani:** stopped in pits lap 21 to investigate power loss (broken exhaust), retired 13 laps later, engine (oil leak). **Rosberg:** stopped in pits lap 22, refuelled and fitted four fresh tyres. **Arnoux:** stopped in pits lap 24, refuelled and fitted four fresh tyres. **Baldi:** stopped in pits lap 24 to investigate loss of power, retired same lap with turbine failure. **Cheever:** stopped in pits lap 25, refuelled and fitted four fresh tyres, retired 14 laps later, detached throttle cable. **Jarier:** stopped in pits lap 26, refuelled and fitted four fresh tyres. **Lauda** and **Laffite:** stopped in pits lap 26, both refuelled and fitted four fresh tyres each. **De Cesaris:** stopped in pits lap 27, refuelled and fitted four fresh tyres. **Boesel:** retired lap 28, engine. **Patrese** and **Watson:** stopped in pits lap 29, both refuelled and fitted four fresh tyres each. **Piquet:** stopped in pits lap 31, refuelled and fitted four fresh tyres, retired 12 laps later in flame (broken fuel filter housing).

Zeltweg statistics

AUSTRIAN GRAND PRIX

Date: 14 August 1983
Circuit: Osterreichring
Length: 3.692 miles, 5.942 kms
Race distance: 53 laps, 195.70 miles, 314.95 kms
Weather: Fine and sunny
Attendance: 150 000

PREVIOUS WINNERS

1979 : Alan Jones (Williams)
1980 : Jean-Pierre Jabouille (Renault)
1981 : Jacques Laffite (Ligier)
1982 : Elio de Angelis (Lotus)

STARTING GRID

Tambay **Ferrari 126C3** 1'29"871 (2)	Arnoux Ferrari 126C3 1'29"935
Mansell Lotus 94T-Renault 1'30"457 (2)	Piquet Brabham BT52-BMW 1'30"566 (2)
Prost Renault RE40 1'30"841 (1)	Patrese Brabham BT52-BMW 1'31"440 (2)
Giacomelli Toleman TG183B-Hart 1'31"693 (2)	Cheever Renault RE40 1'31"695 (1)
Baldi Alfa Romeo 183T 1'31"769 (2)	Warwick Toleman TG183B-Hart 1'31"962 (2)
De Cesaris Alfa Romeo 183T 1'32"359 (1)	De Angelis Lotus 94T-Renault 1'32"451 (2)
Winkelhock ATS D6-BMW 1'33"211 (2)	Lauda McLaren MP4-1C 1'34"518 (1)
Rosberg Williams FW08C 1'35"380 (2)	Johansson Spirit 201C-Honda 1'35"892 (2)
Watson McLaren MP4-1C 1'36"059 (1)	Alboreto Tyrrell 011 1'36"079 (2)
Boutsen Arrows A6 1'36"357 (2)	Jarier Ligier JS21 1'36"435 (1)
Guerrero Theodore N183 1'36"772 (2)	Surer Arrows A6 1'36"619 (2)
Sullivan Tyrrell 011 1'36"772 (2)	Laffite Williams FW08C 1'37"017 (2)
Ghinzani Osella FA1E-Alfa Romeo 1'37"117 (2)	Fabi Osella FA1E-Alfa Romeo 1'37"217 (2)

Did not qualify:
Boesel/Ligier JS21-Cosworth 1'37.400 (1)
Cecotto/Theodore N183-Cosworth 1'37.497 (2)
Acheson/RAM March 01-Cosworth 1'38.974 (1)

PROVISIONAL POSITIONS IN THE DRIVERS' WORLD CHAMPIONSHIP

(After the Brazilian, Long Beach, French, San Marino, Monaco, Belgian, Detroit, Canadian, British, German and Austrian Grands Prix)

													Total
1. Prost	—	—	9	6	4	9	—	2	9	3	9		51
2. Piquet	9	—	6	—	6	3	3	—	6	—	4		37
3. Arnoux	—	4	—	4	—	—	—	9	2	9	6		34
4. Tambay	2	—	3	9	3	6	—	4	4	—	—		31
5. Rosberg	—	—	2	3	9	2	6	3	—	—	—		25
6. Watson	—	9	—	2	—	—	4	1	—	2	—		18
7. Cheever	—	—	4	—	—	4	—	6	—	—	3		17
8. Lauda	4	6	—	—	—	—	—	—	1	—	1		12
9. Laffite	3	3	1	—	—	—	2	—	—	1	—		11
10. Alboreto	—	—	—	—	—	—	9	—	—	—	—		9
11. De Cesaris	—	—	—	—	—	—	—	—	—	6	—		6
Mansell	—	—	—	—	—	—	1	—	3	—	2		6
13. Surer	1	2	—	1	—	—	—	—	—	—	—		4
Patrese	—	—	—	—	—	—	—	—	—	4	—		4
15. Sullivan	—	—	—	—	2	—	—	—	—	—	—		2
16. Cecotto	—	1	—	—	—	—	—	—	—	—	—		1
Baldi	—	—	—	—	—	—	1	—	—	—	—		1

RESULT

1. Prost/Renault RE40, 53 laps, 195.70 miles in 1hr 24m 32.74s, at an average speed of 138.88 mph

2. Arnoux	Ferrari 126C3	6.83s behind
3. Piquet	Brabham BT52B-BMW	27.66s behind
4. Cheever	Renault RE40	28.39s behind
5. Mansell	Lotus 94T Renault	one lap behind
6. Lauda	McLaren MP4-1C-Cosworth	two laps behind
7. Jarier	Ligier JS21-Cosworth	two laps behind
8. Rosberg	Williams FW08C-Cosworth	two laps behind
9. Watson	McLaren MP4-1C-Cosworth	two laps behind
10. Fabi	Osella FA1E-Alfa Romeo	three laps behind
11. Ghinzani	Osella FA1E-Alfa Romeo	four laps behind
12. Johansson	Spirit 201C-Honda	five laps behind
13. Boutsen	Arrows A6-Cosworth	five laps behind

Fastest lap: Prost/Renault RE40, 1m 33.96s, on lap 20, an average speed of 141.46 mph

PROVISIONAL POSITIONS IN THE CONSTRUCTORS' WORLD CHAMPIONSHIP

1. Renault 68 pts; 2. Ferrari 65 pts; 3. Brabham 41 pts; 4. Williams 36 pts; 5. McLaren 30 pts; 6. Tyrrell 11 pts; 7. Alfa Romeo 7 pts; 8. Lotus 6 pts; 9. Arrows 4 pts; 10. Theodore 1 pt.

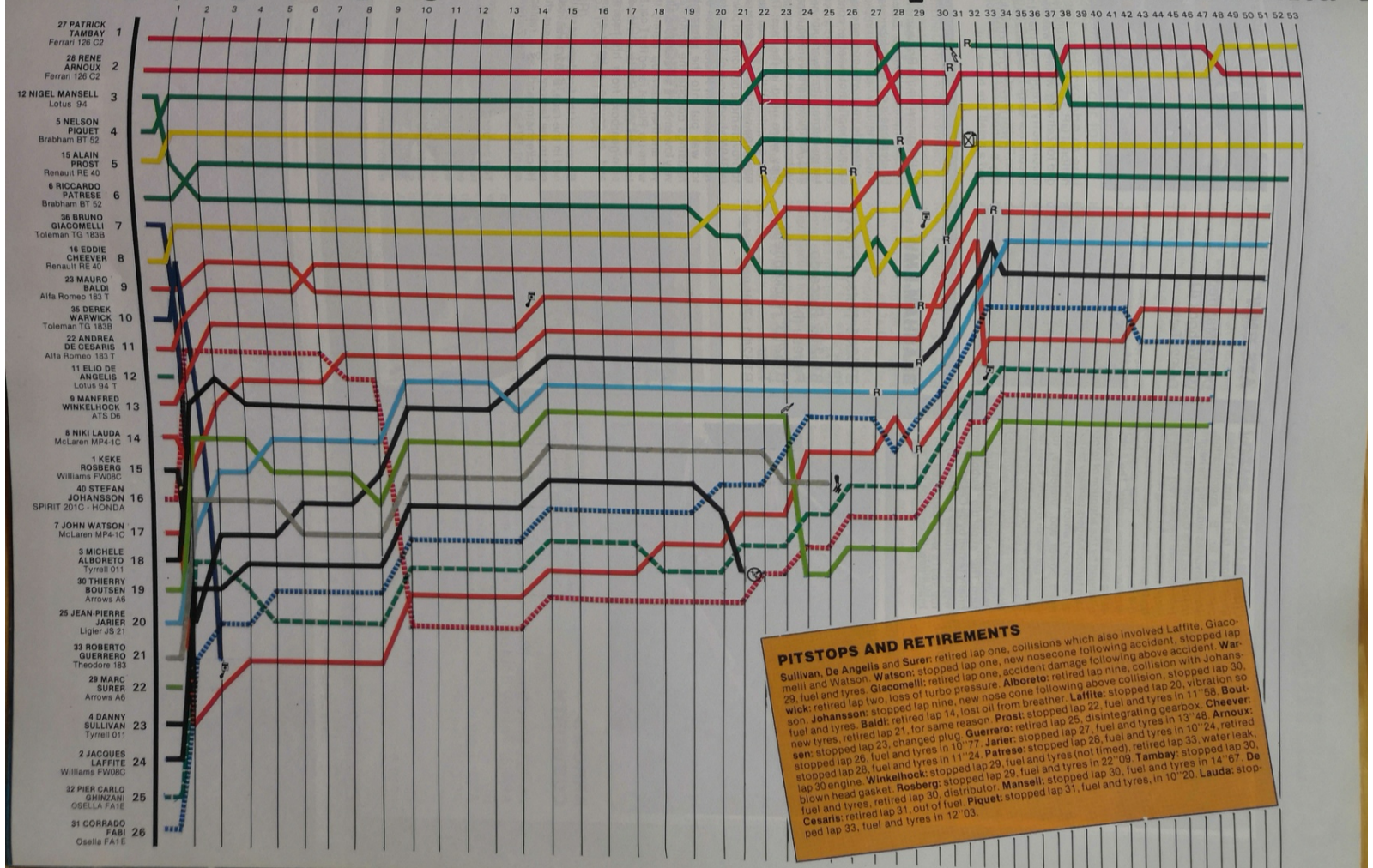
OFFICIAL QUALIFYING TIMES

	Unofficial practice 1	Official practice 1	Unofficial practice 2	Official practice 2	Warm-up Sunday
1. Rosberg	1'37"513	1'36"136	1'38"054	**1'35"380**	1'37"766
2. Laffite	1'38"922	1'37"546	1'38"214	**1'37"017**	1'38"685
3. Alboreto	1'36"922	1'36"347	1'38"599	**1'36"079**	1'38"606
4. Sullivan	1'35"691	1'37"858	1'37"443	**1'36"772**	1'39"899
5. Piquet	1'31"316	1'31"912	1'33"386	**1'30"566**	1'33"849
6. Patrese	1'34"374	1'31"770	1'34"024	**1'31"440**	1'33"672
7. Watson	1'36"794	**1'36"059**	1'36"814	1'36"141	1'36"936
8. Lauda	1'35"165	**1'34"518**	1'35"325	1'36"604	1'36"120
9. Winkelhock	1'35"161	1'33"754	1'33"827	**1'33"211**	1'37"771
11. De Angelis	1'33"729	1'34"818	1'32"680	**1'32"451**	1'34"042
12. Mansell	1'32"112	1'31"263	1'32"040	**1'30"457**	1'33"912
15. Prost	1'32"268	**1'30"841**	1'34"480	1'32"187	1'32"798
16. Cheever	1'34"959	**1'31"695**	1'34"573	1'31"962	1'31"962
17. Acheson	1'39"965	**1'38"974**	1'39"518	1'39"138	— — —
22. De Cesaris	1'33"214	**1'32"359**	1'33"274	1'32"720	3'03"438
23. Baldi	1'33"208	1'31"802	1'33"727	**1'31"769**	1'35"142
25. Jarier	1'37"686	**1'36"435**	1'36"456	1'36"437	1'37"409
26. Boesel	1'37"761	**1'37"400**	1'38"128	1'37"554	— — —
27. Tambay	1'32"607	1'30"358	1'32"881	**1'29"871**	1'33"812
28. Arnoux	1'31"922	1'29"995	1'32"799	**1'29"935**	1'33"834
29. Surer	1'37"686	1'37"175	1'39"711	**1'36"619**	1'40"486
30. Boutsen	1'37"456	1'37"253	1'38"576	**1'36"357**	1'39"512
31. Fabi	1'39"711	1'37"650	1'36"965	**1'37"217**	1'39"178
32. Ghinzani	1'40"147	1'38"455	1'38"752	**1'37"117**	1'40"904
33. Guerrero	1'37"513	1'36"918	1'37"594	**1'36"532**	1'39"710
34. Cecotto	1'40"050	1'37"677	1'37"789	**1'37"497**	— — —
35. Warwick	1'33"442	1'32"888	1'32"833	**1'31"962**	1'33"265
36. Giacomelli	1'34"495	1'33"333	1'35"200	**1'31"693**	1'34"836
40. Johansson	1'38"118	1'40"330	1'36"260	**1'35"892**	1'37"909

THEIR FASTEST RACE LAPS

Prost	1'33"961 (20)
Tambay	1'34"002 (21)
Piquet	1'34"004 (18)
Arnoux	1'34"123 (20)
Patrese	1'34"299 (9)
Cheever	1'34"351 (50)
De Cesaris	1'34"929 (25)
Mansell	1'34"976 (8)
Baldi	1'35"514 (12)
Winkelhock	1'36"548 (21)
Lauda	1'37"552 (39)
Watson	1'37"845 (27)
Jarier	1'38"074 (45)
Rosberg	1'38"176 (12)
Boutsen	1'38"586 (45)
Alboreto	1'39"179 (6)
Johansson	1'39"450 (6)
Laffite	1'39"952 (10)
Guerrero	1'40"171 (20)
Fabi	*1'40"341 (44)*
Ghinzani	*1'42"189 (19)*
Warwick	*1'46"919 (1)*
Giacomelli	*2'20"130 (1)*

...nde - Lap by lap - Giro per giro - Runde um runde - Tour par tour - Vuelta a vuelta - ...

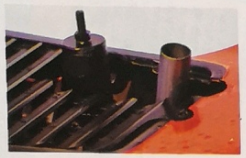

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53
27 PATRICK TAMBAY Ferrari 126 C2 1
28 RENE ARNOUX Ferrari 126 C2 2
12 NIGEL MANSELL Lotus 94 3
5 NELSON PIQUET Brabham BT 52 4
15 ALAIN PROST Renault RE 40 5
6 RICCARDO PATRESE Brabham BT 52 6
36 BRUNO GIACOMELLI Toleman TG 183B 7
16 EDDIE CHEEVER Renault RE 40 8
23 MAURO BALDI Alfa Romeo 183 T 9
35 DEREK WARWICK Toleman TG 183B 10
22 ANDREA DE CESARIS Alfa Romeo 183 T 11
11 ELIO DE ANGELIS Lotus 94 T 12
9 MANFRED WINKELHOCK ATS D6 13
8 NIKI LAUDA McLaren MP4-1C 14
1 KEKE ROSBERG Williams FW08C 15
40 STEFAN JOHANSSON SPIRIT 201C - HONDA 16
7 JOHN WATSON McLaren MP4-1C 17
3 MICHELE ALBORETO Tyrrell 011 18
30 THIERRY BOUTSEN Arrows A6 19
25 JEAN-PIERRE JARIER Ligier JS 21 20
33 ROBERTO GUERRERO Theodore 183 21
29 MARC SURER Arrows A6 22
4 DANNY SULLIVAN Tyrrell 011 23
2 JACQUES LAFFITE Williams FW08C 24
32 PIER CARLO GHINZANI OSELLA FA1E 25
31 CORRADO FABI Osella FA1E 26

PITSTOPS AND RETIREMENTS

Sullivan, De Angelis and **Surer:** retired lap one, collisions which also involved Laffite, Giacomelli and Watson. **Watson:** stopped lap one, new nosecone following accident, stopped lap 29, fuel and tyres. **Giacomelli:** retired lap one, accident damage following above accident. **Warwick:** retired lap two, loss of turbo pressure. **Alboreto:** retired lap nine, collision with Johansson. **Johansson:** stopped lap nine, new nose cone following above collision, stopped lap 20, fuel and tyres. **Baldi:** retired lap 14, lost oil from breather. **Laffite:** stopped lap 20, vibration so new tyres, retired lap 21, for same reason. **Prost:** stopped lap 22, fuel and tyres in 13"48. **Arnoux:** stopped lap 23, changed plug. **Guerrero:** retired lap 25, disintegrating gearbox. **Cheever:** stopped lap 26, fuel and tyres in 10"77. **Jarier:** stopped lap 27, fuel and tyres in 10"24, retired stopped lap 28, fuel and tyres in 11"24. **Patrese:** stopped lap 28, fuel and tyres (not timed), retired lap 33, water leak, lap 30 engine. **Winkelhock:** stopped lap 29, fuel and tyres in 22"09. **Tambay:** stopped lap 30, blown head gasket. **Rosberg:** stopped lap 29, fuel and tyres in 14"67. **De Cesaris:** retired lap 30, distributor. **Mansell:** stopped lap 30, fuel and tyres, in 10"20. **Lauda:** stopped lap 31, out of fuel. **Piquet:** stopped lap 31, fuel and tyres, retired lap 33, fuel and tyres in 12"03.

Cockpits

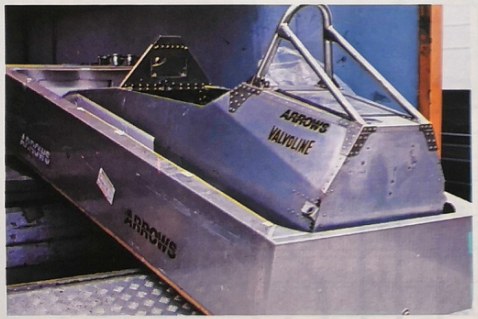
by Giorgio Piola and Didier Braillon



ALFA ROMEO EURORACING

183T/03B: Andrea de Cesaris (I)
183T/04B: Mauro Baldi (I)
183T/05: T-car

Chassis no 5, the T-car, was new for Silverstone, but has not yet been converted to "B" specification, which involves reducing the height of the fuel tank compartment. For Hockenheim the two 183T chassis were fitted with short rear underbody profiles which ended behind the suspension. They also had shorter engine covers. The Autodelta-built V8 engines have been changed by the adoption of larger Avio turbochargers (already tested at Zandvoort) which increase maximum power and, therefore, top speed (by about 6 mph). Even larger turbos are expected to be raced at Monza, which may also see the first appearance of the long-awaited new front and rear suspension. The "super big" turbos were briefly tested by de Cesaris at Zeltweg on Saturday morning, where the 183Ts were also fitted with a brand new three-piece rear wing.



ARROWS-COSWORTH

A6/4(2): Marc Surer (CH)
A6/5(3): Thierry Boutsen (B)
A6/1: T-car
A6/6: spare tub

Few changes: for Hockenheim the A6s used the "Silverstone" engine covers with integral airboxes. They were also fitted with "banana" type front wings (same downforce but less drag than the conventional style), together with a one-piece, almost flat, rear wing of the type seen at the previous race. At Zeltweg, Boutsen and Surer spent part of practice doing back-to-back tests between the new rear wing and the earlier slotted type, in the interests of more downforce. They both chose the latter for the race. Chassis number 6 had been completely stripped and was boxed up in the transporter, but could have been built up to race at Zeltweg if it had been needed after Hockenheim.

ATS-BMW

D6/03: Manfred Winkelhock (D)
D6/02: T-car

There were no modifications to the two A6s for Hockenheim: Winkelhock had the misfortune not to have done a single timed lap on Friday afternoon due to mechanical failures both with his race chassis and the T-car. The following day's rain meant that he was unable to qualify, and he did not run in the second timed session. Thus the competitive but not very reliable German-sponsored car suffered the indignity of not racing in its national GP. The car was unchanged for Zeltweg, where it was bring incorrectly reported that the second car would be raced by Austrian F2 driver Jo Gartner. In Saturday's timed session Winkelhock had a small fire break out.

BRABHAM-BMW

BT52/05: Nelson Piquet (BR)
BT52/06: Riccardo Patrese (I)
BT52/03: Hockenheim T-car
BT52/01: Zeltweg T-car

Nothing new on the Brabhams for Hockenheim, although Bernie Ecclestone's crew had fabricated supplementary radiator air intakes to provide improved cooling under exceptionally hot weather conditions. In the comparatively cool temperatures they were not needed. All three cars were equipped with carbon fibre brake discs, and they were used in the race. The four-cylinder BMW engines are a new type with modified exhausts to provide more bottom end power (a BMW shortcoming). Piquet blew two engines on Friday, when dry ice was put into the intercooler housings despite the comparatively low ambient temperature: after yet another blow-up during the warm-up, Piquet raced the T-car, fitted with the rear end (suspension/gearbox) from his race car and, of course, a fresh engine.

Because of the fire damage sustained in the race, BT52/3 was returned to the factory for repairs after Hockenheim and, as a replacement, BT52/1 was sent to Zeltweg.

The carbon fibre brake discs were retained, and when Patrese blew an engine he jumped in and qualified with this car because Piquet's race car (which he had agreed to let Riccardo use) had... broken a turbo. On Saturday everything was back in its intended order, and there were no major panics.

FERRARI

126C3/067: Patrick Tambay (F)
126C3/066: René Arnoux (F)/Hockenheim and T-car Tambay/Zeltweg
126C2/065: T-car for Tambay/Hockenheim and Arnoux/Zeltweg
126C2/064: T-car Arnoux/Hockenheim

Still fitted, as it was at Silverstone, with the C2-type sidepod/intercoolers, the top bodywork section had been redesigned for Hockenheim in three separate pieces. The Silverstone rear wing had also been increased in area, with large sideplates and the forward-mounted mini-wing extensions which have already been seen on the Ferraris since the early GPS. The latest bodywork modifications allow a weight saving of no less than 7 kg, which brings the weight of the C3 down to 10 kg over the limit of 540. The ignition has been approved by the adoption of an improved microprocessor "chip," and it is interesting to note that Ferrari is looking into the possibility of adopting electronically operated clutch and throttle controls in order to dispense with conventional cables. Tambay blew an engine during the race morning warm-up at Hockenheim, but although it was changed in time for the start, the new unit had a valve failure, forcing his retirement. The third 126C3 (chassis 068) debuted at Zeltweg (for Arnoux) as a replacement for 064, which was returned to Maranello. The latest C3 "tub" weighs two kilos less than the others, and the control system for the water emulsifier/injection has been relocated. The casting for the gearbox casing reverts to an older, wider design, providing slightly different suspension mounting points.

LIGIER-COSWORTH

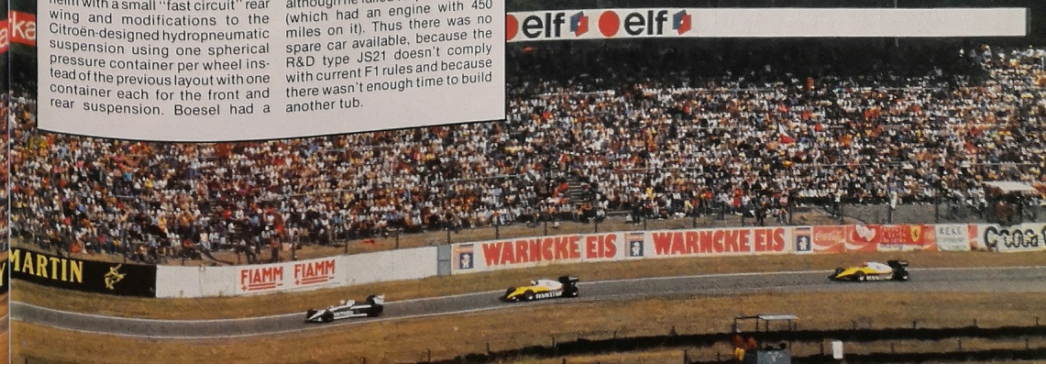
JS21/04: Jean-Pierre Jarier (F)
JS21/03: Raul Boesel (BR)
JS21/02: T-car

The Ligiers were ready for Hockenheim with a small "fast circuit" rear wing and modifications to the Citroën-designed hydropneumatic suspension using one spherical pressure container per wheel instead of the previous layout with one container each for the front and rear suspension. Boesel had a major accident on Friday afternoon when he ran off the road coming into the stadium on his fourth timed lap. A brake pipe had been damaged by a flying stone and the brake pedal went to the floor as he tried to slow down from about 120 mph for the tight Sachs curve. Although the JS21 chassis stood up well to the impact, it is probably a write-off: Boesel raced chassis no 2 after taking Saturday off to recover, and he used it again at Zeltweg, although he failed to qualify the car (which had an engine with 450 miles on it). Thus there was no spare car available, because the R&D type JS21 doesn't comply with current F1 rules and because there wasn't enough time to build another tub.

LOTUS-RENAULT

94T/1: Elio de Angelis (I)
94T/2: Nigel Mansell (GB)
93T/1: T-car

Working under Gérard Ducarouge's direction, the JPS-Lotus crew has been tidying up the new Renault-powered car without making any major changes, although seven kilos have been trimmed from the car itself and another six saved by the adoption of modified wheels. Following Silverstone, the first race for the 94T, it has been discovered that de Angelis did not after all have engine failure when he stopped on lap 2: he had merely accidentally knocked the ignition switch to "off" and operated the fire extinguishers. Team Lotus was in trouble at Hockenheim: on Friday de Angelis went off the road, while Mansell broke a water pump drive, and both drivers had to qualify by taking out the old 93T for one flying lap each. Mansell, who only just got on to the grid in time, had repeated overheating on one cylinder bank and electrical trouble with his 94T on Saturday and again on Sunday morning. In spite of bringing out an enormous electrical analyser, his engineers could not trace the fault, and he started the race with the 93T, which could manage only one lap. De Angelis was out with similar engine trouble (overheating again) before half distance. At Zeltweg he crashed again in the Friday morning session, then had a fright with the 93T, which lost its top body panel mid-way through a difficult corner. Order was restored for Saturday, when both cars adopted the four-plane "chip cutter" rear wing which had first appeared at the Race of Champions.



Cockpits

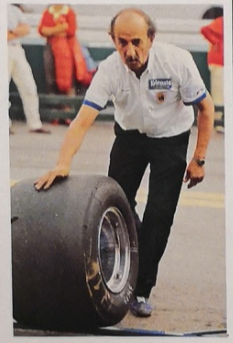
McLAREN-COSWORTH

MP4-1C/02: John Watson (GB)
MP4-1C/07: Niki Lauda (A)
MP4-1C/04: T-car

For the trip to Germany the McLaren team prepared chassis 2,4 and 7, which are not the usual cars. Number 2, which was to be Watson's, has not in fact raced at all this year, and had to be quickly updated to the latest specification with refuelling nozzles. Part of the reason for these rearrangements is that chassis 5 and 6 are being modified for fitting with the TAG-Porsche V6 turbo, but adding to the team's logistical problems was the loss of chassis 8. It seems that there was an accident at the factory during a simulated refuelling stop, in the course of which the petrol was pressure-fed into the car so efficiently that although the bag tank survived undamaged, the carbon fibre chassis itself took a major battering. No one in the team was prepared to discuss the incident, but it is understood that Brabham had a similar, albeit less serious, incident during a "public" pit stop with Patrese's car at the French GP. No changes had been made for Zeltweg.

OSELLA-ALFA ROMEO

FA1E/03: Corrado Fabi (I)
FA1E/02: Piercarlo Ghinzani (I)
FA1E/01: T-car



Because of a shortage of spares, the front spring/damper arrangement above the driver's knees had again been offset instead of being symmetrical. Both front and rear dampers are now of the Sachs gas-filled type. There are now horizontally-mounted sideplates (of the type seen on the Brabhams at Silverstone) underneath the side radiators, separating the air required for the fuel injection and for cooling purposes. There were also some stronger (and heavier) engine covers. At Hockenheim Fabi failed to qualify, bu there was a new face in the team at Zeltweg — that of Niki Lauda's one-time Ferrari mechanic, the legendary Ermanno Cuoghi — and it may not be entirely coincidence that both Osellas qualified (and finished) for the first time this year.

RAM MARCH-COSWORTH

RAM 01/3: Kenny Acheson (GB)
RAM 01/2: T-car

The RAM team is ending the season on a very tight budget, so the only noteworthy modification to the car for Hockenheim was a "high speed" wing with a narrow cord (distance from leading to trailing edge). Kenny Acheson's failure to qualify at Hockenheim and in Austria means three consecutive disappointments for the Ulsterman.

RENAULT

RE40/05: Alain Prost
RE40/04: Eddie Cheever
RE40/03: T-car

For aerodynamic reasons, and also to save weight, Renault had fitted chassis 04 and 05 for Hockenheim with much shorter rear bodywork. The under-body sections, previously quite gently curved and extending back underneath the rear wing, were much smaller. The radiator vents had also been modified. After Prost's engine overheated during the warm-up in Germany it was changed for the race, but when exactly the same problem became evident as he was heading for the grid, he quickly switched to the T-car (03), which still had the long rear bodywork. Fifth gear started to jump out of engagement early in the race, and after the fuel stops it was virtually unuseable, so Prost switched off the rev limiter to make the gearing less awkward. For Zeltweg, this car (03) was updated with the new bodywork, and Prost frequently took it out in an attempt to try to get to the bottom of the various overheating troubles being encountered at present by both the teams using Renault engines. It is believed that the cause of the problem is insufficient "bleeding" of air from the water in the cooling system.

SPIRIT-HONDA

201C/5: Stefan Johansson (S)
201C/4: T-car

With the numbering of the 201 series chassis following on from last year's F2 cars, the two Spirits presently racing in F1 should correctly be referred to as numbers 4 and 5, not 1 and 2 (as we had listed them at Silverstone). The 201/5 had been fitted for Hockenheim with a spacer adding 10 cm to the wheelbase between the oil tank and gearbox casing: it also had a 6-speed gearbox replacing the 5-speed. He was eliminated by a valve failure in Germany, but although there were some ignition and other engine problems during practice at Zeltweg (where the car was difficult to handle over the bumps), he brought the Spirit home to give the Honda engine its first finish of the year.

THEODORE-COSWORTH

183/17: Roberto Guerrero (COL)
183/18: Johnny Cecotto (YV)
183/16: T-car

Guerrero has reverted to the number 17 chassis which be used until Imola, with number 16 (his Silverstone chassis) now the team's T-car. At Hockenheim 183/17 was briefly tried with a wide front track and a shorter wheelbase on Friday: the triangular air deflector seen at Silverstone was also fitted to improve ducting to the sidepod intakes. By using single-caliper brakes front and rear, together with a lightweight electric starter instead of the (3 kg) heavier air starter, the Theodores now weigh in, dry, at 548 kg. After Cecotto had tried the triangular air intake arrangement at Zeltweg it was finally set aside: he was unable to qualify for the race, although Guerrero again managed to do so.

TOLEMAN-HART

TG 183B/04: Derek Warwick (GB)
TG183B/03: Bruno Giacomelli (I)
TG183B/02: T-car

unchanged. For the Austrian race Warwick's engine was tried on Saturday with a British-made turbocharger replacing the familiar American Garrett: Warwick said it was a big improvement, although it was incorrectly adjusted during the afternoon session (and actually gave less power).

For Hockenheim the T-car was fitted with a new and aerodynamically different rear wing arrangement, with a third wing fitted behind and between the two existing wings. Although it was tested on Saturday morning, in the wet, no direct comparison could be made because the T-car was not fitted with the latest twin-plug ignition engine. The two "race" cars were transversely-drilled brake discs and tiny one-piece rear wing already raced at Silverstone. For Zeltweg the front wheel fairings tested at Silverstone made an appearance on all three cars, together with a slotted three-piece rear wing. Both Williams drivers were less competitive than usual against the other Cosworth teams in Germany and Austria, because they were designed to be effective on slow circuits and don't suit higher-speed tracks.

WILLIAMS-COSWORTH

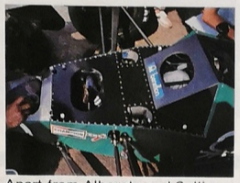
FW08C/07: Keke Rosberg (SF)
FW08C/08: Jacques Laffite (F)
FW08C/09: T-car

There were no important modifications to be seen on the FW08s at Hockenheim, where they raced with the lightweight thin rear

Cockpits

TYRRELL-COSWORTH

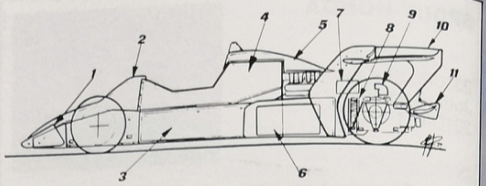
011/4: Michele Alboreto (I)
011/5: Danny Sullivan (USA)
011/6: T-car
012/1: T-car for Alboreto/Zeltweg



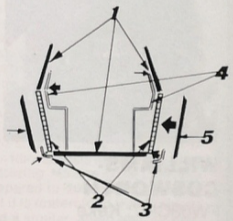
Apart from Alboreto and Sullivan having swapped chassis after Silverstone, there was nothing new at Tyrrell for Germany. However, for Austria the team brought along the first of the new 012 chassis designed by Maurice Phillippe, who has been given more time and a larger budget than he had for some of his previous Tyrrell projects. Although the car had already done several laps at both Donington and Silverstone before being despatched to Austria, it was short of testing and had to be put away after Alboreto had tried it on Friday at Zeltweg. The most interesting feature of the car, its forward-dihedral rear wing (a Phillippe "trademark," incidentally), is an unusually elegant way of exploiting the current F1 rules, but it was replaced by a more conventional arrangement after only half a dozen laps. The basis of the 012 chassis is an aluminium honeycomb/carbonfibre structure with a small nose cone and tiny engine cover as the only bodywork. Phillippe has also provided inboard rear brakes (which are better suited to the '83 flat-bottom rules), requiring a completely new gearbox casting which incorporates the brake cooling ducts in addition to the mounting points for the new pull-rod rear suspension. Brabham-type radiators (water on the left, oil on the right) are fitted, and provision has been made for the turbo engine which Tyrrell expects to have next year.

SIDE VIEW

(1): the front wing is similar to the previous 011: in fact, it is the only part that's common to both models.
(2) and (5): the nose cone and engine cover, are the only pieces of detachable bodywork. Elsewhere, body shape is the outside skin of the monocoque itself.
(3): there are carbon-fibre side panels built into the tub: they greatly improve lateral crush-resistance in an accident, and can be replaced if required.
(4): shows the tall fuel tank, with a total capacity of 220 litres (48.4 gallons) as required by the 1984 rules.

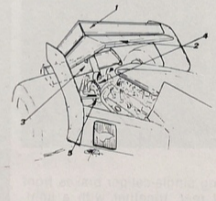


(6): the water radiator: the oil cooler is symmetrically mounted on the opposite side.
(7): the oil tank.
(8): shock absorber, mounted on the gearbox casing together with the suspension pull-rod.
(9): the cast-in air intake for the new inboard rear brakes.
(10): the large rear wing with non-adjustable flaps.
(11): small supplementary rear wing, the regulation 100 cm wide.



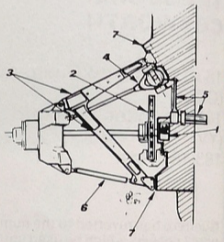
CHASSIS CROSS-SECTION

(1): the floor and the upper cockpit sides are in carbon fibre.
(2): the lower body section is made of aluminium honeycomb.
(3): the floor is glued to lower body section.
(4): the upper body section is glued to the lower body section and the floor.



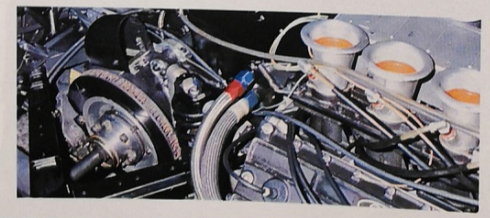
REAR

The flaps (1) of the large dihedral rear wing (2) are not adjustable.
(3): small adjustable rear wing, 100 cm wide.
(4): inboard brake disc.
(5): upper suspension wishbone.



TOP VIEW OF REAR SUSPENSION

(1): air intake is a cast-in part of the gearbox casing.
(2): brake disc mounted inboard alongside the transmission, instead of inside the wheel.
(3): large upper wishbone, machined from a solid piece of metal.
(4): shock absorber mounted to the transmission casing, with the top attached to the suspension upright.
(5): unusually small anti-roll bar.
(6): pull-rod.
(7): suspension mounting points cast-in to the transmission casing.



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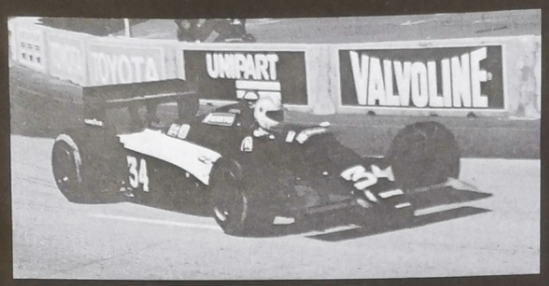

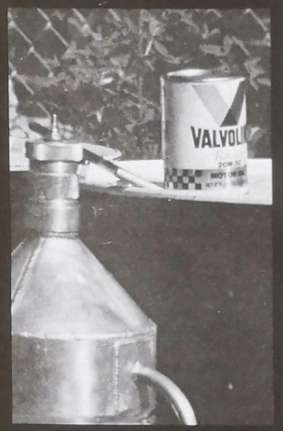

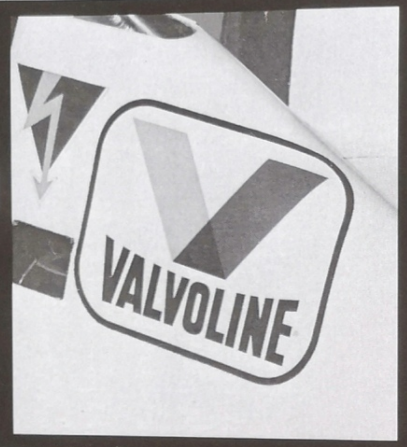

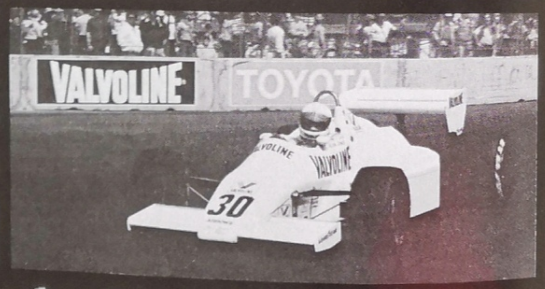

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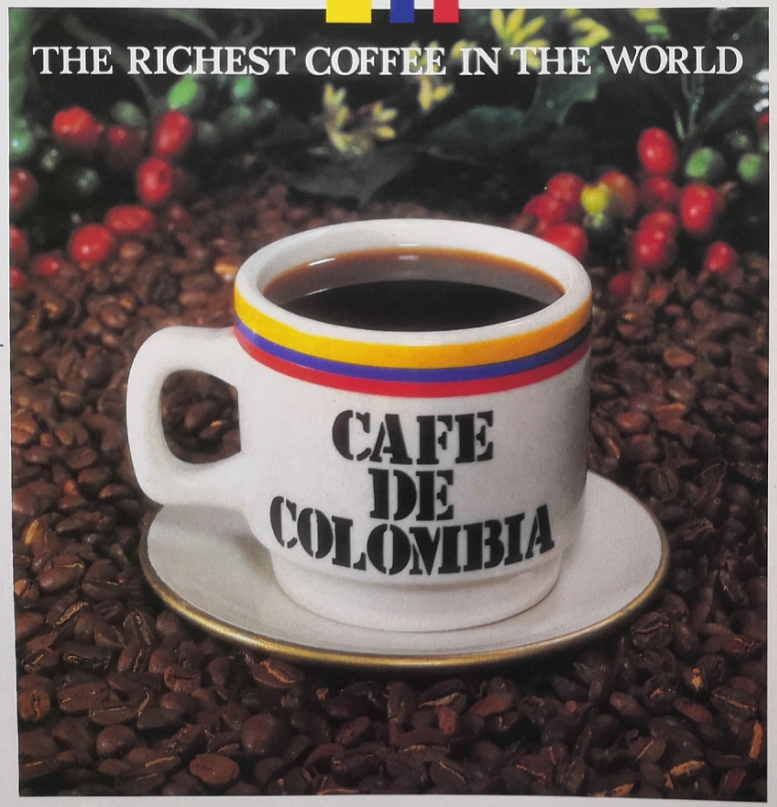

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